A. A. R. PURCHASES AND STORES COMMITTEE REPORT NUMBER

August 8, 1942

Railway Age

Founded in 1856

McCARTNEY LIBRARY
GENEVA COLLEGE

TO HELP YOU
Keep 'em Rolling

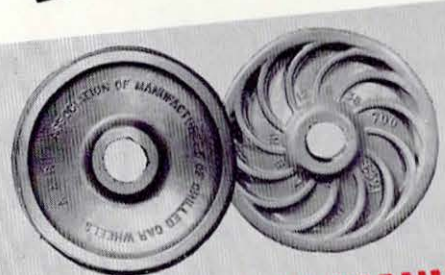
THE *Wine* RAILWAY APPLIANCE CO.
TOLEDO OHIO

NO Critically Strategic Metals are Needed TO MAKE CHILLED CAR WHEELS

No stock piles are called on for scarce metals to help make Chilled Wheels.

Only iron is required and much of that is used over and over as the Wheels retired from service are returned to our foundries under the unique exchange plan.

Where a shortage of used wheels exists, the industry is dependent upon pig iron, but under the officially approved plan of the W.P.B., manufacturers are able to continue to make the vitally necessary wheels for railroad service.



Chilled Car Wheels not only save money, but today they save priceless metals for use where they are indispensable in winning the war.

ASSOCIATION OF MANUFACTURERS OF CHILLED CAR WHEELS

230 PARK AVENUE,
NEW YORK, N. Y.

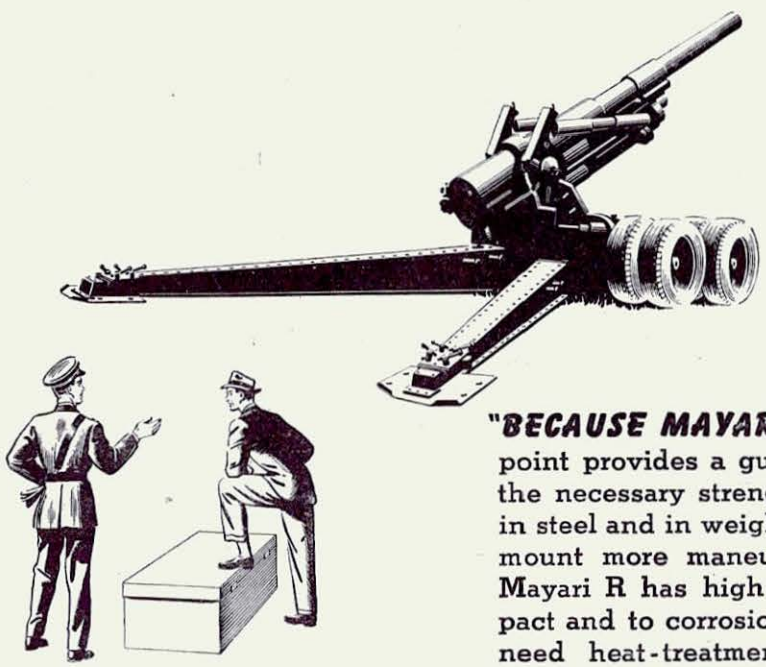
445 N. SACRAMENTO BLVD.,
CHICAGO, ILL.

AMCCW

ORGANIZED TO ACHIEVE:
Uniform Specifications
Uniform Inspection
Uniform Product

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 113, No. 6.

"WHY USE MAYARI R FOR GUN MOUNTS?"



"**BECAUSE MAYARI R's** high yield point provides a gun mount that has the necessary strength with a saving in steel and in weight. This makes the mount more maneuverable. Besides, Mayari R has high resistance to impact and to corrosion. And it doesn't need heat-treatment after welding."

Not so long ago large tonnages of Mayari R, Bethlehem's low-alloy, high-strength steel, were being used in railway cars, trucks, busses, coal grab buckets, and other movable equipment. But since then Mayari R has been drafted for the duration. Right now it is going into planes, tanks, anti-aircraft guns, heavy-duty trailers, ammunition trays, and many other types of equipment for our armed forces.

But when the victory has been won Mayari R will of course again be available for peace-time uses. And continuing research and the wealth of application experience now being gathered will result in Mayari R being even more useful and efficient in helping you to build better, more competitive products in the days ahead.

Physical properties of Mayari R in brief:

Ultimate tensile strength, p.s.i. minimum	70,000
Yield point, p.s.i. minimum	50,000
Elongation in 2 in. per cent minimum	22
Endurance limit, p.s.i.	50,000
Endurance ratio	0.70
Modulus of elasticity	28-30,000,000

BETHLEHEM STEEL

BETHLEHEM STEEL COMPANY

"WAR-TIME ON THE RAILROAD"

calls for round-the-clock service . . .

- Scale free boilers qualify for this strenuous war-time service. Shopping tickets give way to OK's for "doubling back." Dearborn Engineer helps you eliminate scale forming ingredients.
- He makes a study of each water station in cooperation with your own water chemists, or independently if you so desire. Water samples are analyzed and checked in our laboratories. Scientific treatment to meet your specific need is recommended. Dearborn Engineer selects proper type automatic chemical feeding equipment, assists your forces in correct installation, supervises initial operation, and thereafter makes periodic service checks.
- Over 200 railroads depend upon Dearborn service. There's a Dearborn Engineer nearby to serve you.

DEARBORN CHEMICAL COMPANY

CHICAGO	310 S. Michigan Ave.
NEW YORK	205 E. 42nd St.
LOS ANGELES	807-15 Mateo St.
TORONTO	2454 Dundas St., West

Dearborn

TRADE MARK REGISTERED

SCIENTIFIC WATER TREATMENT

★ ★ ★ ★ ★ ★ ★ ★ ★

To Withstand Severe Shocks and Ride Smoother TANKS are equipped with VOLUTE SPRINGS

All Holland Company Friction Volute Spring Patents as of October 18, 1935, were released to our government.

Photo by U. S. Army Signal Corps.

BOLSTER SPRING NESTS ARE PROTECTED FROM SEVERE SHOCKS

when equipped with

Improved HOLLAND Style A-6 VOLUTE SNUBBERS

The tremendous military demand for springs must come first, so bolster spring life should be lengthened by providing every possible protection against breakage. Yet the tendency today is toward increased spring breakage, due primarily to lack of snubbers.

The application of one Holland Volute Snubber Spring in each spring nest solves this problem. Spring nest *shock capacity* is increased, thus reducing shocks on the standard springs.

The Holland Improved Style A6 (S-M) Snubber Spring.

We especially suggest Holland Volute Snubber Springs for trucks subject to severe service.

WRITE FOR FREE BULLETIN

Complete Assembly of Holland Volute Snubber Spring ready to slip into the spring group.

6 ADVANTAGES OF EQUIPPING WITH SNUBBERS

1. You eliminate 25% of your potential coil spring breakage, by replacing one standard spring with a Holland Volute Friction Spring in each spring nest.
2. The life of the remaining 75% of the standard coil springs is increased due to a great reduction in breakage.
3. The four standard springs per car released are added to your available stock of coil springs.
4. Life of substructure and superstructure parts is substantially increased, due to the reduction in shocks on standard springs and the cushioned ride provided by the volute type snubber.
5. Damage to lading is materially decreased.
6. Shocks on rails and roadbed are reduced.

HOLLAND COMPANY

332 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

Steel mills need

Three months' "Scrap Drive" yields one railroad several hundred cars of scrap plus reclaimable materials

Did you read the article "Scrap for Victory" in the July 4th issue of Railway Age? Get a copy and look it over. Here is a working blueprint of a highly successful scrap drive that gives facts and figures that will help you immeasurably in instituting a similar campaign for your company. Not only was the procedure discussed instrumental in getting a tremendous supply of scrap and reclaimable material, but the fact is emphasized that this well organized and successful drive was the most effective means so far discovered in teaching the employees the importance of scrap and how to conserve materials.

Railroad SCRAP . . now!

Enough steel for the Nation's war needs can't be made without scrap

THE need is urgent. The steel industry is faced with the tremendous task of producing even more than was produced last year which was the biggest year in its history. Almost twice as much as the Axis powers combined.

Every ton of new steel requires about half a ton of scrap. That means we have to find at least 140,000 tons a day of this precious junk somewhere to meet 1942 requirements. One of the best sources of scrap is the railroad industry. Not merely because of the enormous tonnage that is available but because so much railroad scrap comes in heavy pieces. That means less work to prepare it for the furnace. Much railroad scrap not only makes better steel—it also helps to speed up production.

Are you doing your share in this important part of the National war effort? Are you getting in the scrap? Many leading railroads already have set substantial scrap drives in motion—and with amazing results. Under the leadership of well organized and hard-driving scrap committees, they are combing their properties from end to end. To the surprise of both management and salvage forces, they are unearthing scrap in enormous quantities from hidden and unexpected sources and at the same time are locating many idle tools and much reclaimable material that the railroads themselves can make good use of.

ORGANIZE A DEFINITE "SCRAP CAMPAIGN"

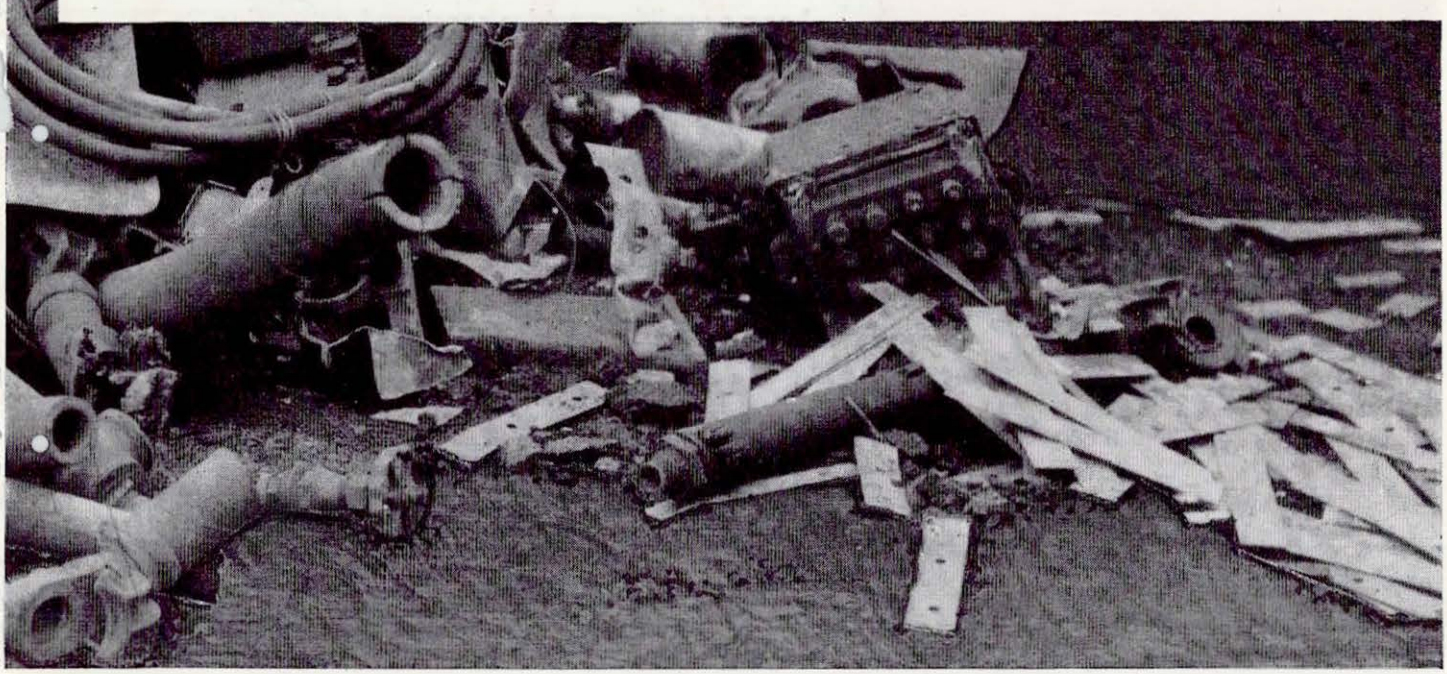
To be successful, every scrap drive must be definitely organized and have executive backing. It needs a spark plug—a promoter who can get action from your entire organization. If this is *not* done, any drive for scrap you start will be only partially successful and much valuable iron and steel will be lost to the nation's war effort.

☆ *Get in the scrap for Victory* ☆

AMERICAN STEEL & WIRE COMPANY, *Cleveland, Chicago and New York*
CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago*
COLUMBIA STEEL COMPANY, *San Francisco*
NATIONAL TUBE COMPANY, *Pittsburgh*
TENNESSEE COAL, IRON & RAILROAD COMPANY, *Birmingham*

Scully Steel Products Company, Chicago, *Warehouse Distributors* · United States Steel Export Company, New York

UNITED STATES STEEL



EDGEW

Contribute In

The new Chicago, Burlington & Quincy box cars, built in their own shops at Havelock, Nebraska, are equipped with Edgewater Ring Spring Draft Gears — the Gear with maximum capacity and minimum weight. This car is one of 50 used in passenger train service.

Burlington Route

IMPORTANT FACTORS CONTRIBUTED BY EDGEWATER DRAFT GEARS

1—CAPACITY
High capacity provides efficient cushioning to protect cars.

2—ENDURANCE
Long gear life provides continued protection.

3—SMOOTH ACTION
Closes smoothly at high speeds or low.

4—UNIFORMITY
All gears have uniformly high quality.

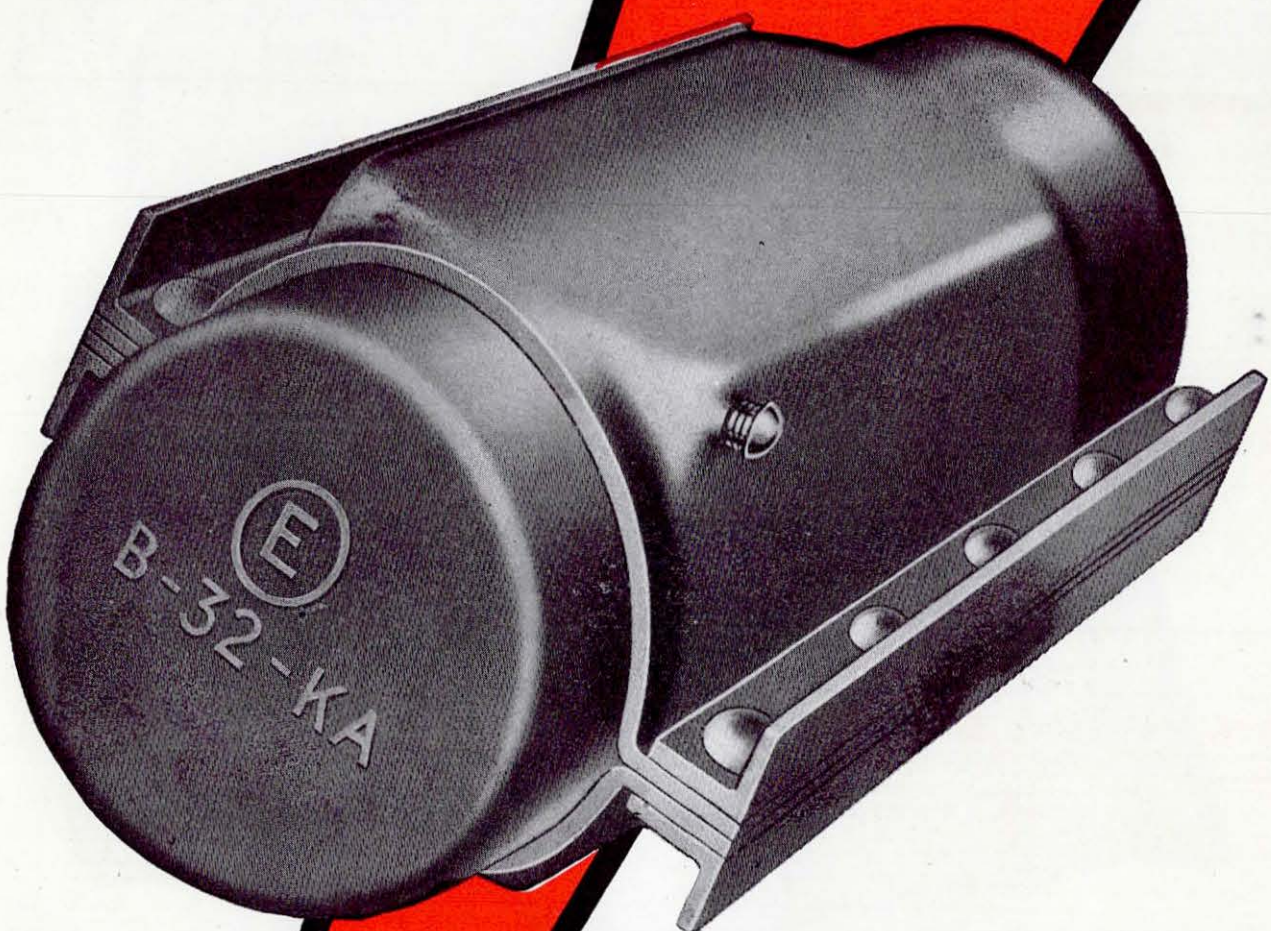
5—RELEASE
Release is quick and positive after impact. Destructive surges are prevented.

6—SIMPLICITY
It is furnished as a single selfcontained unit.

EDGEWATER STEEL COMPANY · PITTSBURGH, PA.

ATER DRAFT GEARS

portant Factors to Freight Car Progress



Atlanta, Ga. Baltimore, Md. Boston, Mass. Chicago, Ill. Cleveland, O. Kansas City, Mo. Louisville, Ky. New York, N.Y
Philadelphia, Pa. Portland, Ore. St. Louis, Mo. St. Paul, Minn. San Francisco, Cal. Seattle, Wash. Tulsa, Okla. Washington, D.C.

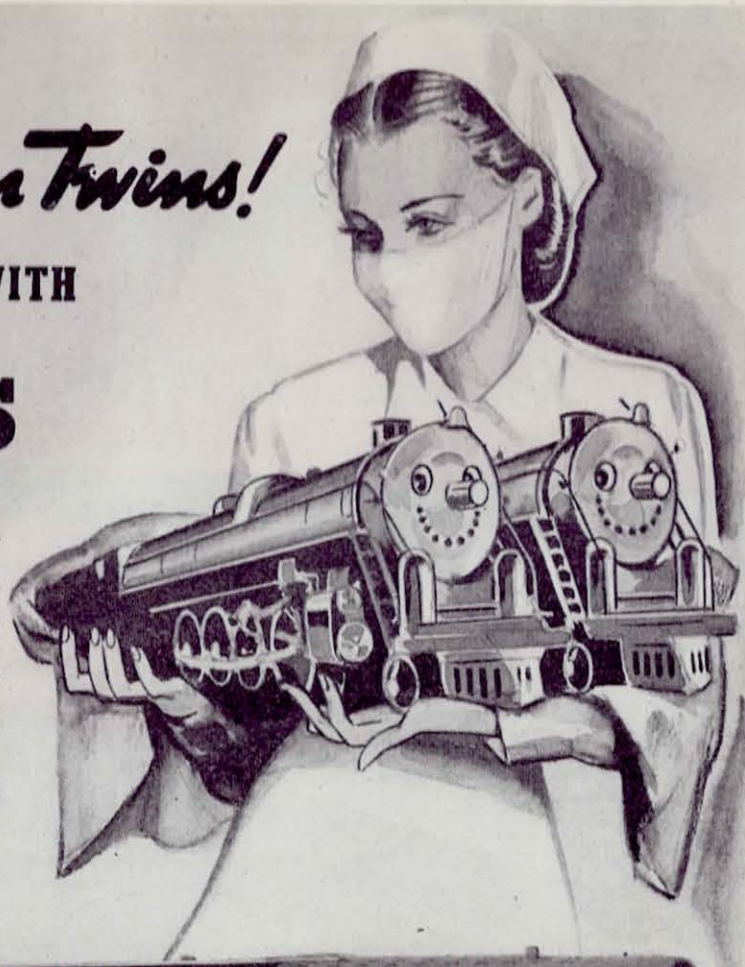
THERE IS A VAST

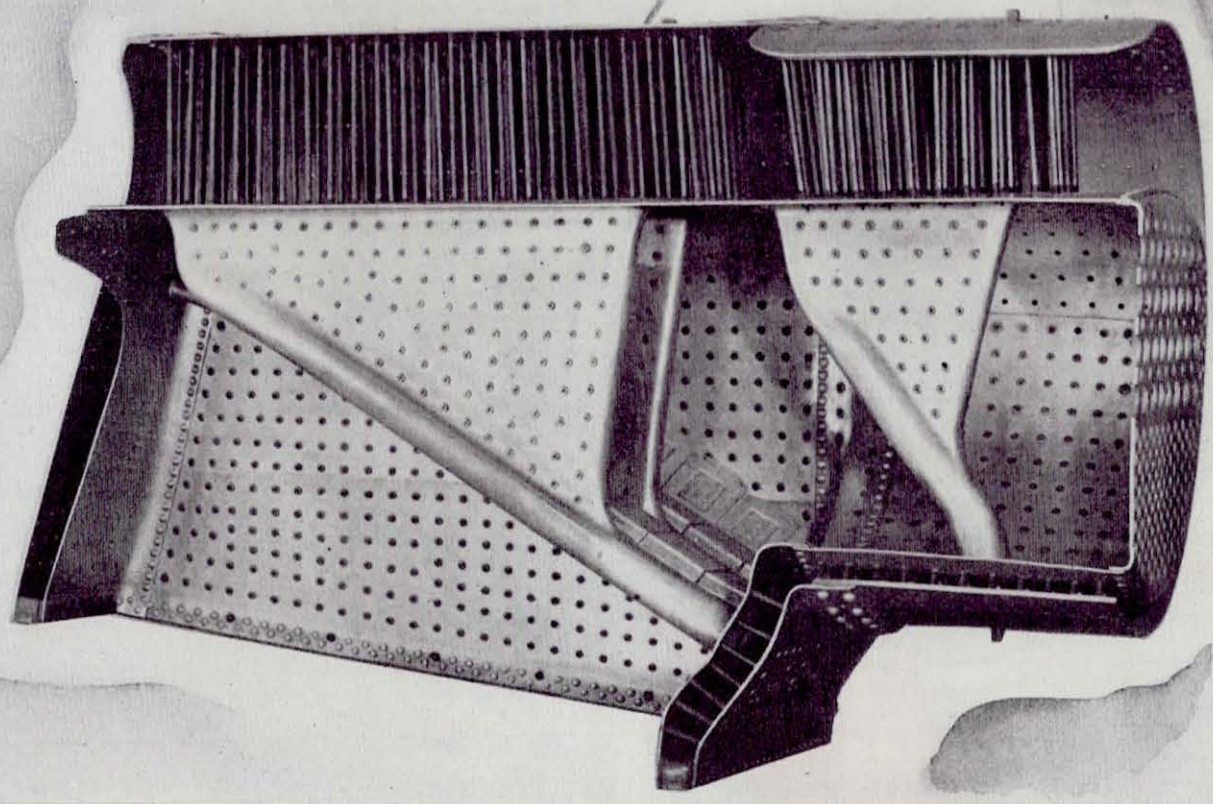
Difference in Twins!

WHEN ONE IS EQUIPPED WITH
NICHOLSON THERMIC

SYPHONS

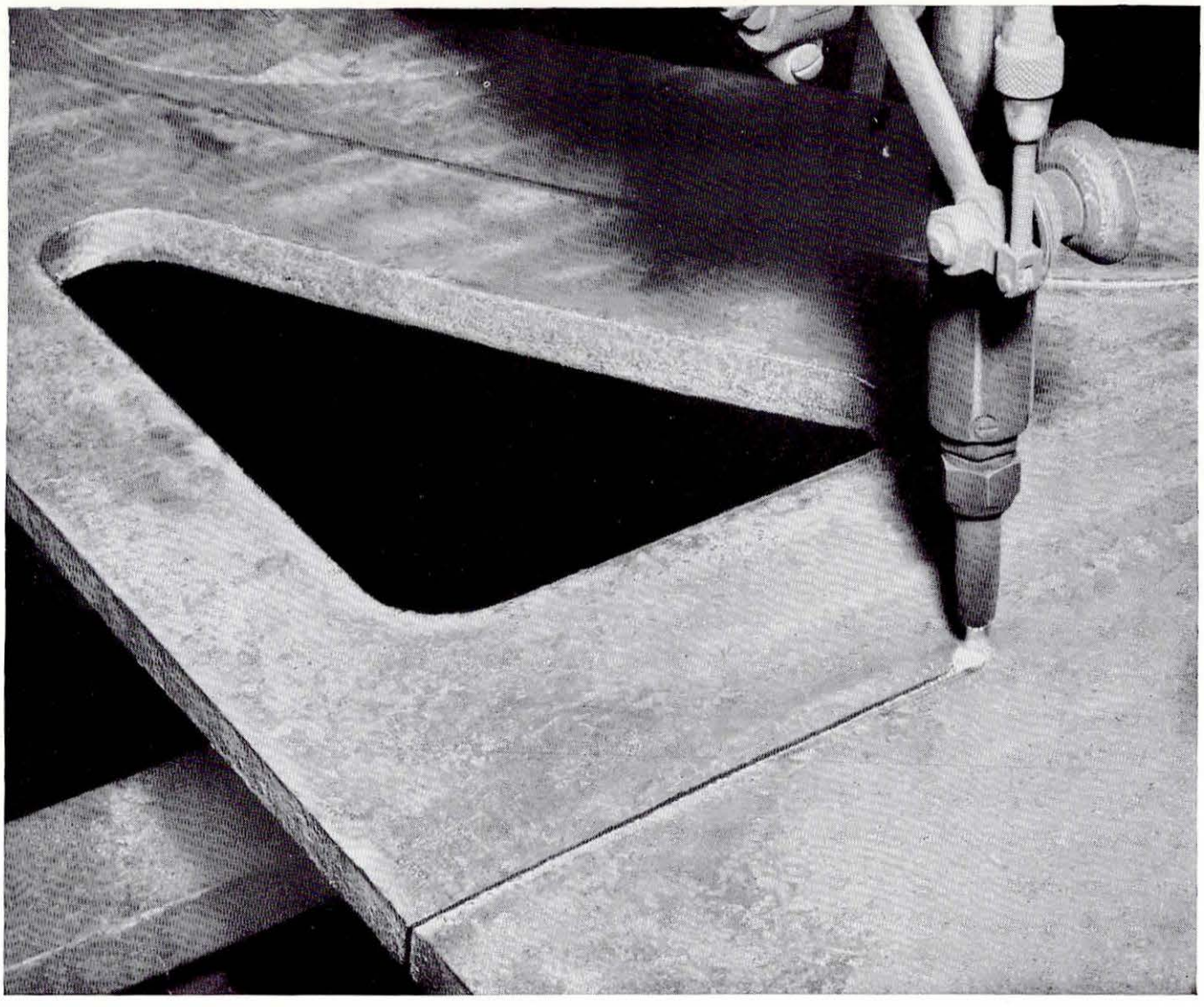
Nicholson Thermic Syphons produce more boiler horse-power and assure greater economy in service and maintenance — **with less weight, less steel, less labor and less cost** for equivalent results than larger boilers without Syphons — plus safety from boiler explosions.





Locomotive Firebox Company

NEW YORK CHICAGO MONTREAL



USE THE STEEL FROM THE HOLE

To Produce Needed Small Parts

• One advantage of using oxy-acetylene shape-cutting for the production of steel parts—and an advantage that is of particular importance today—is the lower scrap loss as compared to other methods of shaping steel. Because the metal that is removed is all in one piece, it can be used to produce many types of smaller parts, such as wrenches and washers. Shape-cutting with Oxweld equipment saves machine time, too, because the cut edges are clean and smooth and in most cases require no further machining before use. Whether working with heavy forged steel for the fabrication of main rods, or light gauge steel plate for the production of such shapes as hopper sheets—Oxweld has developed methods and oxy-acetylene equipment for fast and economical results.

THE OXWELD RAILROAD SERVICE COMPANY
Unit of Union Carbide and Carbon Corporation

UCC

Carbide and Carbon Building Chicago and New York

OXWELD
RAILROAD SERVICE

SINCE 1912—THE COMPLETE OXY-ACETYLENE SERVICE FOR AMERICAN RAILROADS

The word "Oxweld" is a registered trade-mark of a Unit of Union Carbide and Carbon Corporation.

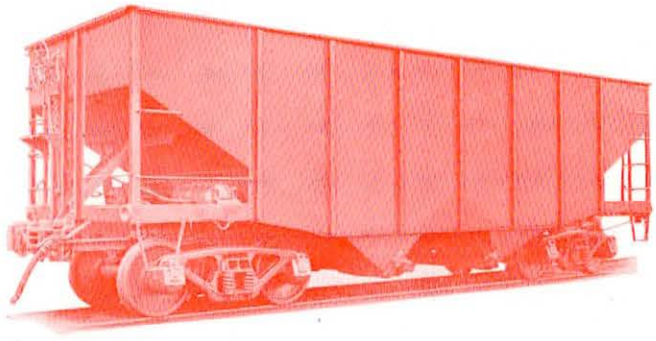
"The railroad freight car is truly a weapon of war because it is the freight car, together with the locomotive which pulls it and the track on which it runs, that make possible all the other instruments of war. Without them, the whole war effort would collapse."
JOHN J. PELLEY,
President,
Association of American Railroads

The hand that holds the throttle! . . . .

As truly as the freight car is one of America's prime weapons of war — a titan in this country's victory effort — so are America's railroad men enlisted in her first line of defense and of attack.

The hand that holds the throttle, or the hand that throws the switch, or countless other hands strong at vital tasks—an army more than a million strong, valiantly warring each moment of the day and night, "that freedom shall not perish from the earth." To this unsung army, America owes a debt of deepest gratitude. A debt that can only be acknowledged—never repaid —by an admiring nation's resounding praise, "Well Done!"

Through generations of the closest association with the railroads — and with the men of every rank who have made the railroads great—the American Car and Foundry Company has always felt a profound obligation to see that whatever it supplied for their service was the best that can be made. Today, in the midst of our common war effort, more than ever a.C.f. is determined to hold to those standards of care and workmanship that it ever may be said, "Whatever a.C.f. builds, it is known to build well."



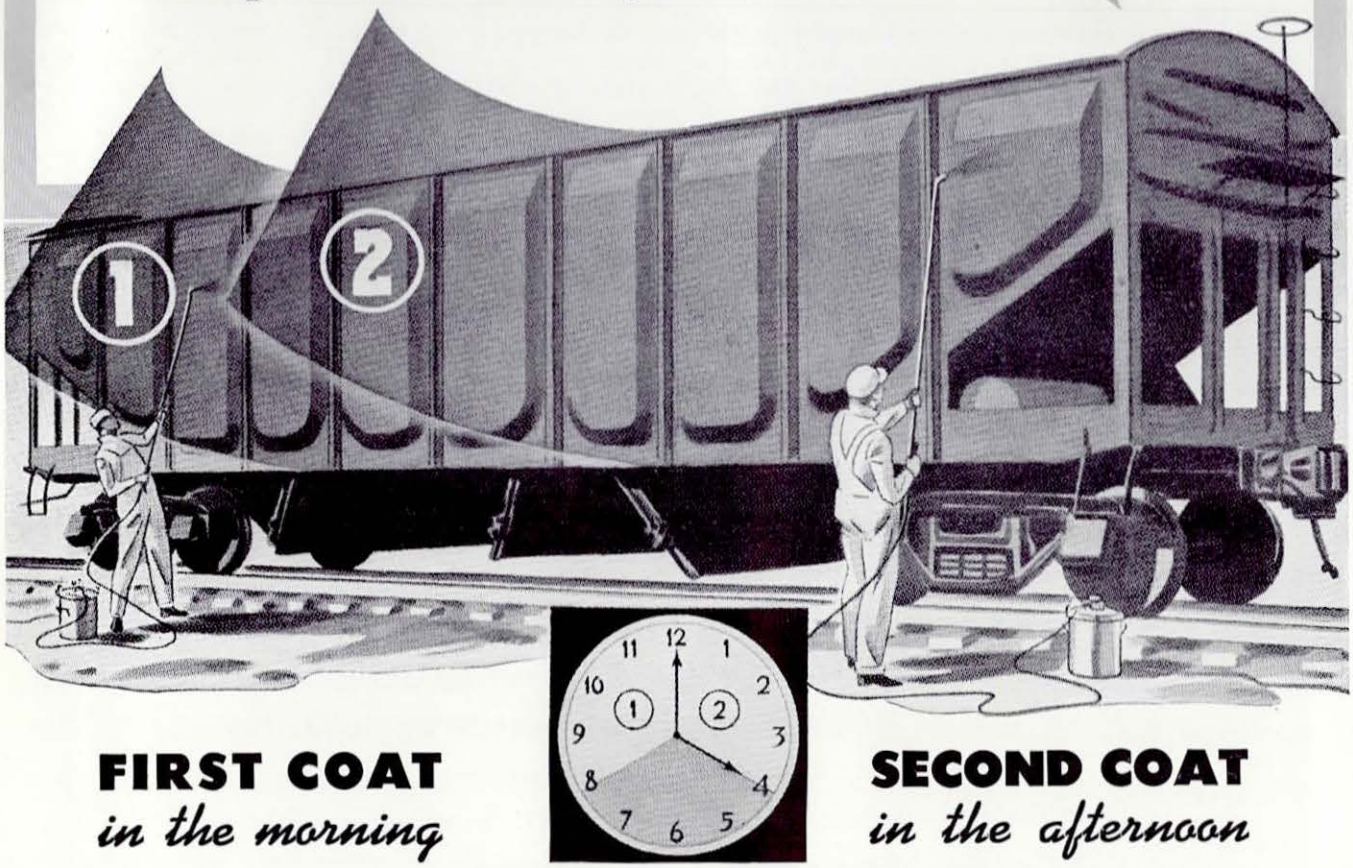
a.C.f. **AMERICAN CAR AND FOUNDRY CO.**

NEW YORK · CHICAGO · ST. LOUIS · CLEVELAND · PHILADELPHIA · PITTSBURGH · ST. PAUL · SAN FRANCISCO

GLIDDEN

"Two-a-Day" Car Painting

gets 'em on their way in double-quick time!



FIRST COAT *in the morning*

SECOND COAT *in the afternoon*

Two coats of fresh, tough, protective Glidden paint in a day—on every freight car or gondola that needs refinishing in your paint shops!

That's the production speed you can maintain with Glidden "Two-a-Day" car painting.

This high-speed efficient refinishing system cuts application costs way down. Gives a longer-lasting, better-looking job. Saves time and materials. Keeps rolling stock on the road, carrying payloads of critical freight that must be rushed to destinations.

Glidden specializes in paint products to meet *every* railroad need. The services of our paint engineers are available at your request.

THE GLIDDEN COMPANY
National Headquarters, Cleveland, Ohio
Factories or Branches in Principal Cities

GLIDDEN
Everywhere on Everything

Reg. U. S. Pat. Off.
TIME-TESTED
PAINTS • VARNISHES • LACQUERS • ENAMELS
GLIDDEN PRODUCTS CARRY THIS FAMOUS MARK OF QUALITY

Railroad Engineer tells Experience with POZZOLITH (CEMENT DISPERSION)

"PRODUCES INCREASED WORKABILITY, FASTER FINISHING . . . BETTER CONCRETE . . ."

The following letter tells of the Erie Railroad's seven years experience with Pozzolith on various types of construction:

"Reports show that Pozzolith produces increased workability and easier placeability, even though we have reduced mixing water as much as 15-20%. There has been a noticeable decrease in honeycombing and other segregation defects, enabling us to finish the concrete faster and at a lower cost.

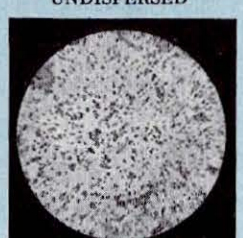
Our regular inspections indicate that the concrete in which we have used Pozzolith has higher durability because to date we have no knowledge of maintenance expense on any of the concrete where this material was used."

HOW CEMENT DISPERSION WORKS

Cement suspended in water
UNDISPERSED

WITHOUT POZZOLITH

In a normal concrete mix, cement particles tend to bunch together, thereby (1) limiting hydration and (2) trapping water within the cement clumps. (See photomicrograph at left).



Cement suspended in water
DISPERSED

WITH POZZOLITH

Cement Dispersion drives these particles apart and (1) exposes their entire surface area to hydration, at the same time (2) making the water entrapped in the clumps available for lubrication of the mix. (See photomicrograph at left).

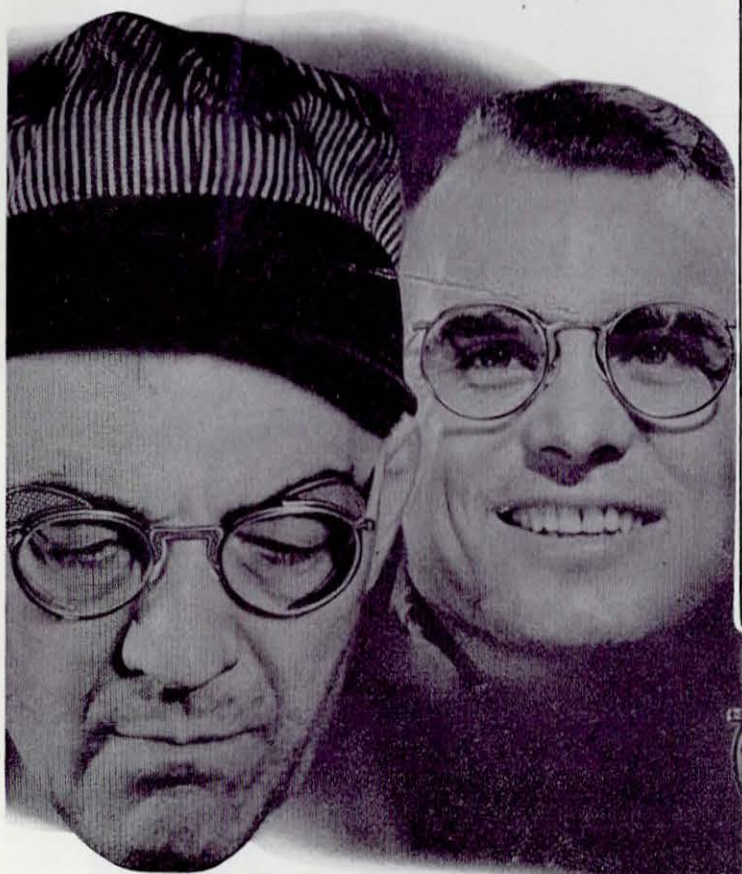
Write for Pozzolith illustrated booklet which tells how Cement Dispersion produces greater speed, workability, placeability, watertightness, durability and reduces costs.

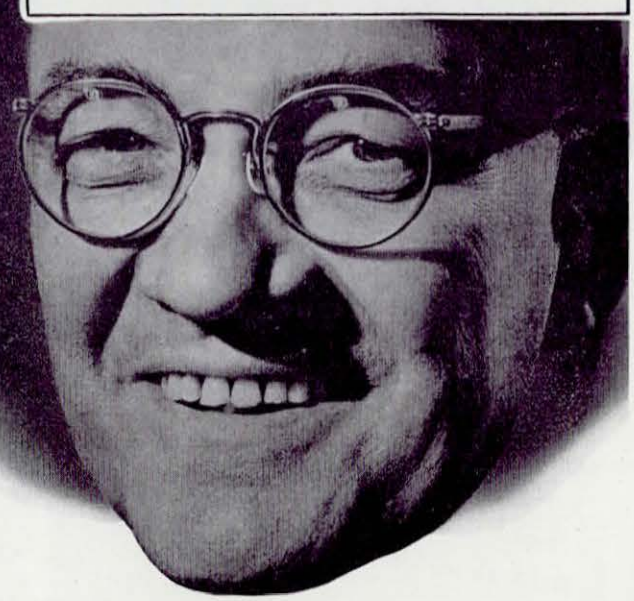
THE MASTER BUILDERS CO.
CLEVELAND, OHIO TORONTO, CANADA

MASTER BUILDERS

Your Whole System Feels the Shock

When A Worker's Eye is Hurt





Give ALL your workers AO Goggles

Wherever a worker's eye is hurt . . . on the track . . . in the machine shop . . . in train service — its effects are bound to be felt throughout the entire system. Costs increase, man-power is cut, schedules are disrupted, morale weakened.

For a comparatively slight investment that quickly pays rich dividends, American Optical Goggles can protect every worker in every department of your company. AO Goggles are lightweight and comfortable . . . and, equipped with Super Armorplate Lenses (in spectacle type goggles, prescription-ground if desired), they provide invaluable protection against eye accidents.

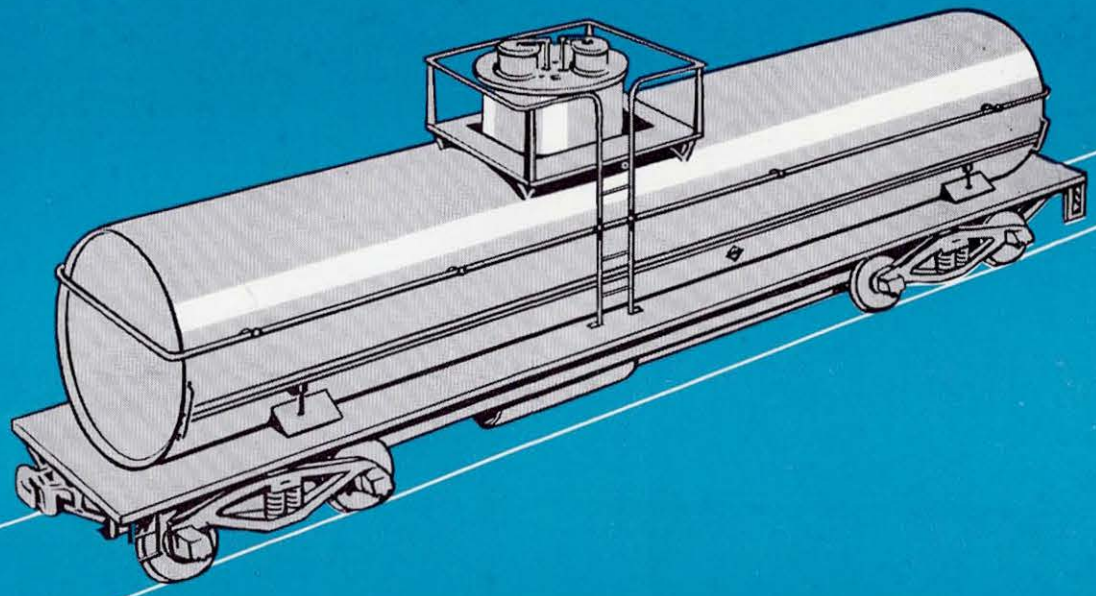
An AO Safety Representative located near you will gladly work with your own Safety Director to establish and maintain the most efficient eye protection program possible.

American Optical

COMPANY

SOUTHBRIDGE, MASSACHUSETTS

When the order says, "Repair",



Aluminum Tank Cars are no Prima Donnas

You know the battering that rolling stock gets. Minor faults show up and, ordinarily, the cars are shopped without fuss to have the parts replaced. But in these war days, new parts are often not available, so the orders read, "Repair".

Aluminum Alloy tank cars can take that kind of treatment, too. They have no prima donna complexes.

For the past 14 years, Aluminum tank cars have been hauling various chemicals, but now their services are vital to our war effort. The other day we watched a repair crew working on an Aluminum tank car which had developed a crack in the dome. They chipped out the metal along the fault, a welder filled in with new metal and, within a few hours, this Aluminum car was back in service.

If your welders or other metal workers need help on how to handle such jobs, Alcoa engineers are always ready to advise them. ALUMINUM COMPANY OF AMERICA, 2178 Gulf Building, Pittsburgh, Pennsylvania.

ALCOA ALUMINUM

The War YOU are going to Win!

Faster "Turn Around" Will Turn The Tide!

Freight cars . . . particularly tank cars . . . are vital to Victory. They must be loaded, unloaded, kept moving with all possible speed. Delays may cost lives. Keep 'em rolling!

Take pride in those trains of tank cars thundering along the rails to the Nation's warworking factories. Your investment in War Savings Bonds, together with your patriotic "doing without," help fill those tank cars with the essentials needed by our armed forces.

Vitally-needed liquid commodities are rushed in tank cars to the Production Front—thence to the farflung Battle Front. The cargoes of these tank cars are an expression of your determination to "see the thing through."

The GATX Fleet of more than 55,000 specialized freight cars cooperates wholeheartedly with the railroads to make our National cooperation win through—to Victory.

GATX
GENERAL AMERICAN

GENERAL AMERICAN TRANSPORTATION CORPORATION

Chicago

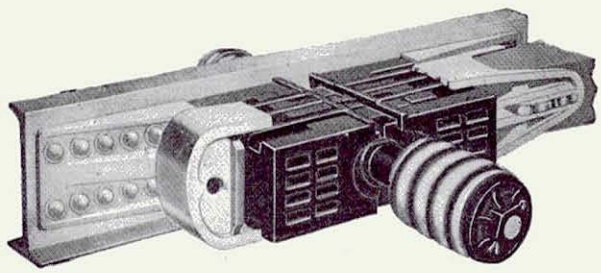
Builders and Suppliers of Railroad Freight Cars

FRICTION DRAFT GEARS

PROLONG

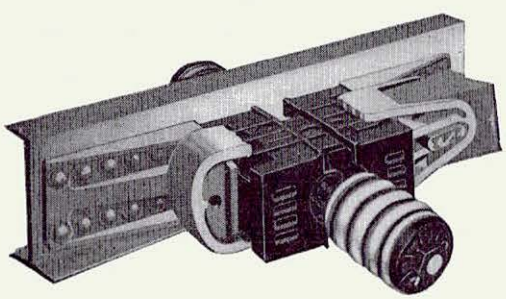
CAR LIFE

To properly absorb buffing and pulling shocks and to minimize recoil, requires a device combining a frictional system and springs. Otherwise the springs would recoil with almost as great a force as the blow.



CARDWELL FRICTION DRAFT GEAR
TYPE L-25-SA
(Certified A.A.R.)

These facts were recognized many years ago and resulted in the A.A.R. setting up specifications which could only be met by draft gears combining the two essential qualities mentioned above.



CARDWELL L-11-S DRAFT GEAR
(All parts of this gear except the housing are interchangeable with the L-25-SA)

Cardwell and Westinghouse Draft Gears meet A.A.R. specifications as well as all draft gear requirements for efficient train operation.

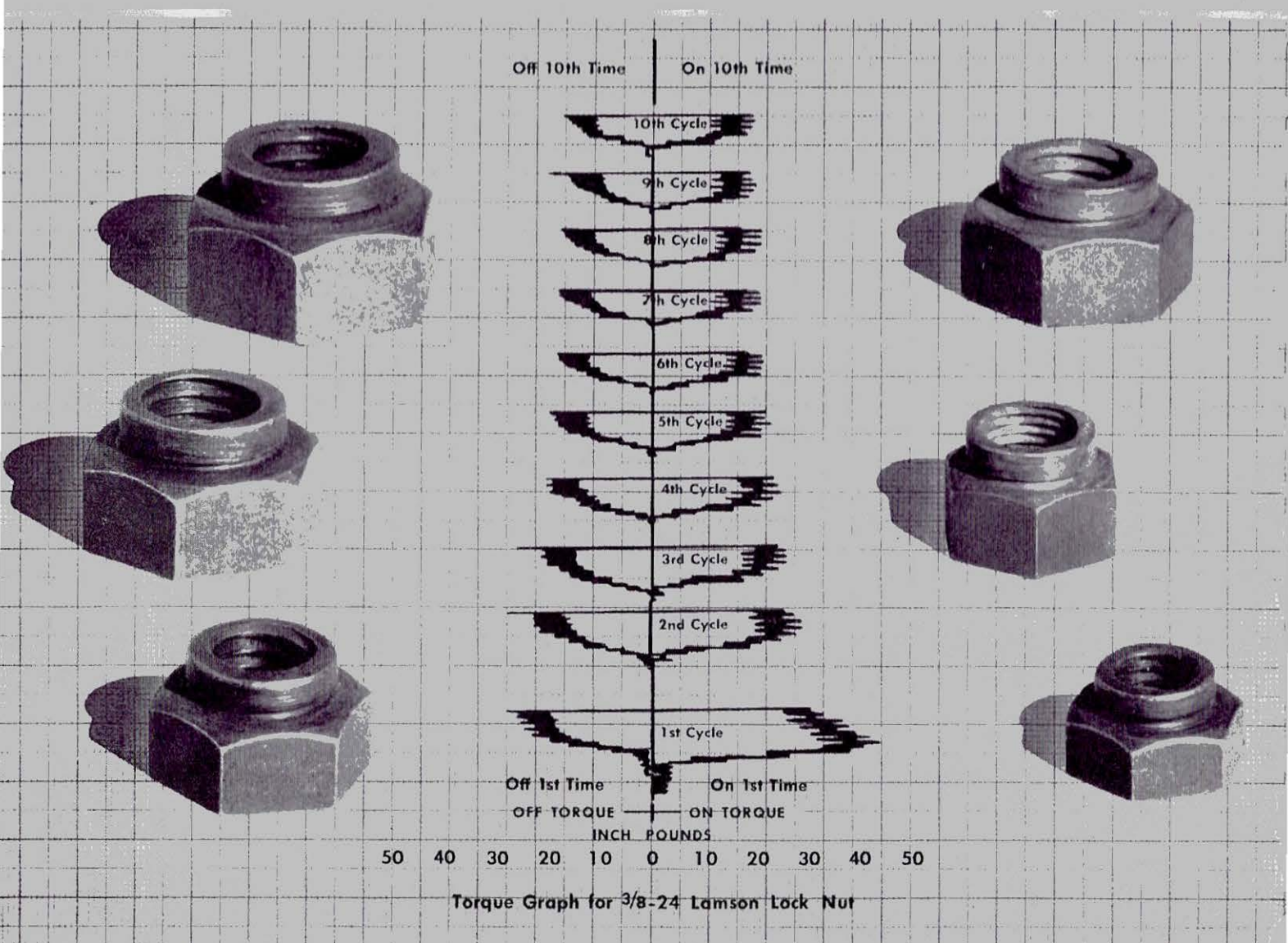
Their 2¾" travel controls the shock by means of high cushioning capacity plus absorption, with an ample factor of safety—consequently train slack is kept at a minimum.

CARDWELL WESTINGHOUSE CO., CHICAGO
CANADIAN CARDWELL CO., LTD., MONTREAL

THIS IS A "PICTURE" OF LAMSON LOCK NUT*

*U.S PATENT NO 2255286

erformance



Torque Graph for 3/8-24 Lamson Lock Nut

ABOVE—each cycle of "on" or "off" represents a minimum of *eight full turns*

● It is one thing to make an unsupported claim and quite another to back it up—so let's look at a graphic illustration of the performance of Lamson Lock Nuts* after we have made these claims. We say the Lamson Lock Nut* clamps onto the thread of a bolt and *stays right there* until removed with a wrench. It does this because after forming the nut complete with thread, it is then slightly deformed on opposite sides of the collar which surmounts or crowns the nut proper, but which is an *integral threaded* part of the nut itself. The Lamson Lock Nut* is heat treated to impart spring action to the collar. The spring tension of the collar of the nut clamps the nut on the bolt like a vise, until purposely removed with a wrench. Removing the Lamson Lock Nut* does not damage the threads of either bolt or nut, hence the nut can be used over again as shown by the above graph. In the most severe kinds of tests, in the laboratory and in the field, the Lamson Lock Nut* is making good. And now verify our claims by asking for samples for any tests you choose to make, under any conditions you think are fair—*to you.*

★ Unless otherwise specified Lamson Lock Nuts* are supplied treated with a non-seizing, rust resisting black finish.

●

THE LAMSON & SESSIONS COMPANY • 1971 West 85th Street • Cleveland, Ohio

Plants at Cleveland and Kent, Ohio; Chicago and Birmingham

LAMSON & SESSIONS

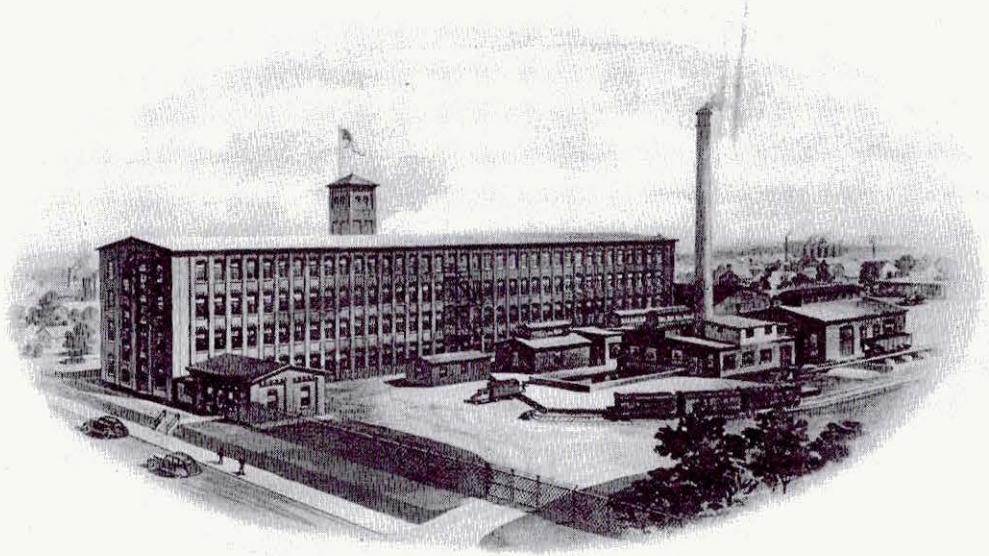
BOLTS • • NUTS • • COTTERS • • CAP SCREWS • • SPECIALS

Your Jobber Stocks the Lamson Line

Announcing the Appointment of

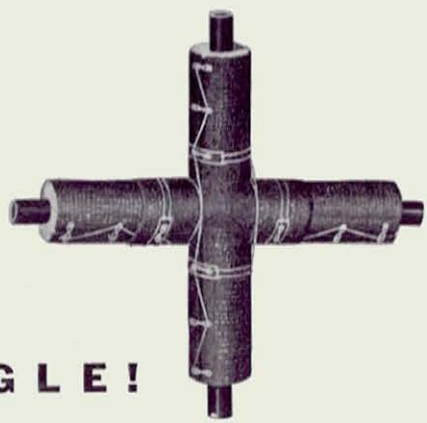
GEORGE R. BERGER
Berger Building
845 S. Wabash Ave., Chicago, Ill.

as our railroad representative in the United States for the sale of EQUATEMP insulating felts for refrigerator and passenger cars



CHARLES LACHMAN CO., INC.
PHOENIXVILLE **PENNSYLVANIA**
Makers of the Optimum in Insulating Value

WE'VE GOT 'EM COVERED



FROM EVERY ANGLE!

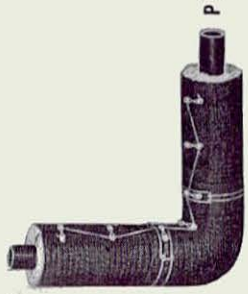
Pipe angles . . . **Insutape & Wovenstone** permit speedy insulation of difficult angles and pipe-curves—can be easily and effectively used to insulate elbows, cross-overs, tees, etc.

Economy angles . . . **Insutape & Wovenstone** can be used over and over again without loss of efficiency—won't soften, shatter or shake down, even under the most severe conditions.

Time-saving angles . . . **Insutape & Wovenstone** can be applied and reapplied in a jiffy; require no maintenance; prevent frozen steam pipes from causing troublesome delays in schedules.

Efficiency angles . . . **Insutape & Wovenstone** are adding to railroadings' war-time efficiency by keeping steam—the life-blood of the railroad, coursing through the veins of the train—at peak efficiency . . .

PROTECTION FOR THE VEINS OF THE TRAIN

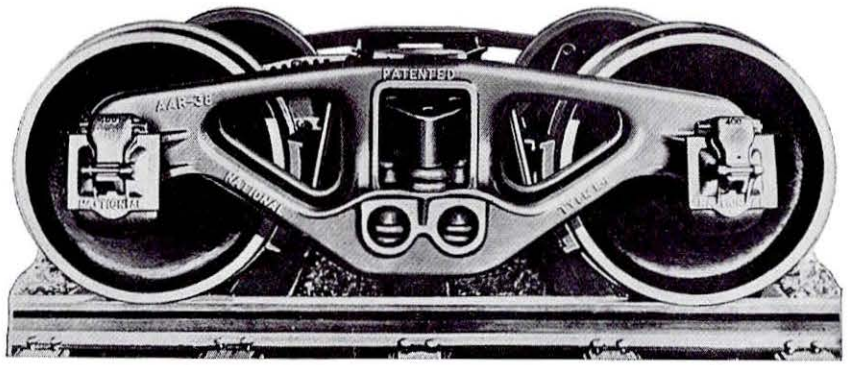


UNARCO

UNION ASBESTOS & RUBBER CO.

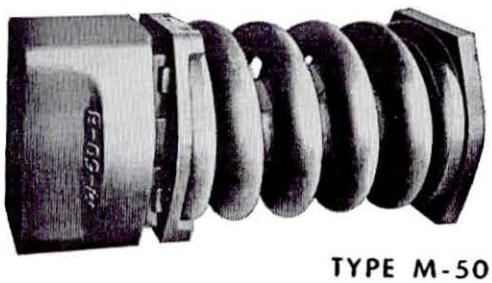
310 South Michigan Ave., Chicago
New York: 420 Lexington Ave.
San Francisco: 116 New Montgomery St.

NATIONAL
KEEPS'EM ROLLING

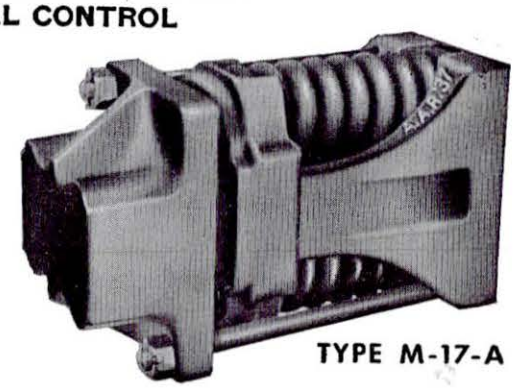


NATIONAL B-1 TRUCK WITH DUAL CONTROL

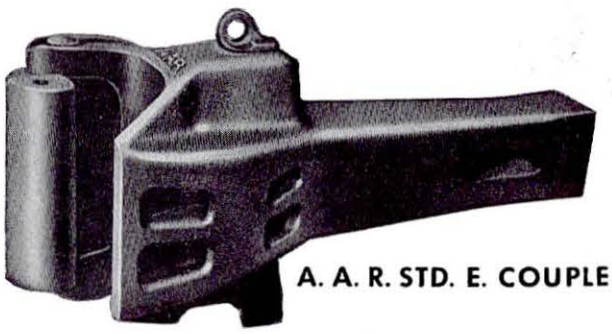
A. A. R. Approved Draft Gears



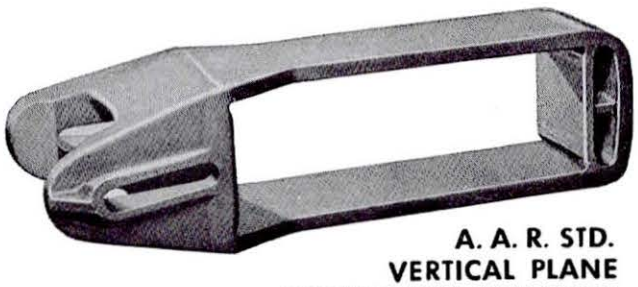
TYPE M-50-B



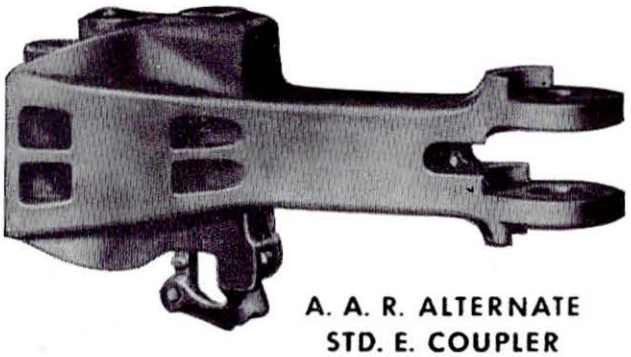
TYPE M-17-A



A. A. R. STD. E. COUPLER



A. A. R. STD.
VERTICAL PLANE
HORIZONTAL KEY YOKE



A. A. R. ALTERNATE
STD. E. COUPLER

A. A. R. ALTERNATE STD.
VERTICAL PLANE SWIVEL YOKE

NATIONAL MALLEABLE AND STEEL CASTINGS CO.

General Offices: CLEVELAND, OHIO

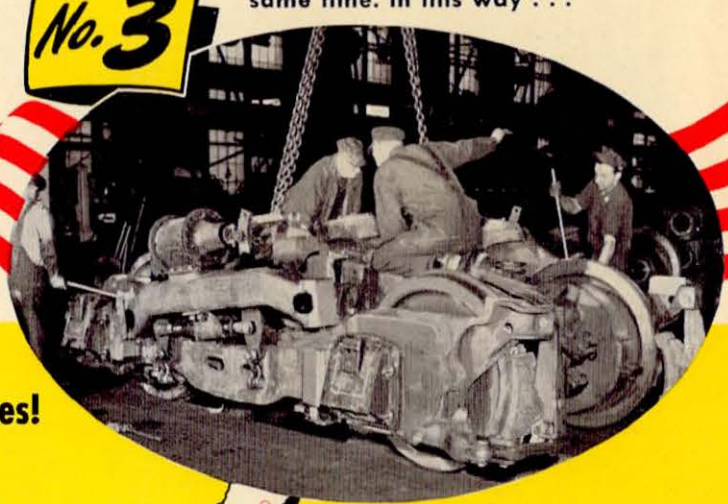
Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco.
Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

To SPEED WARTIME USE THE ALCO-G. E.

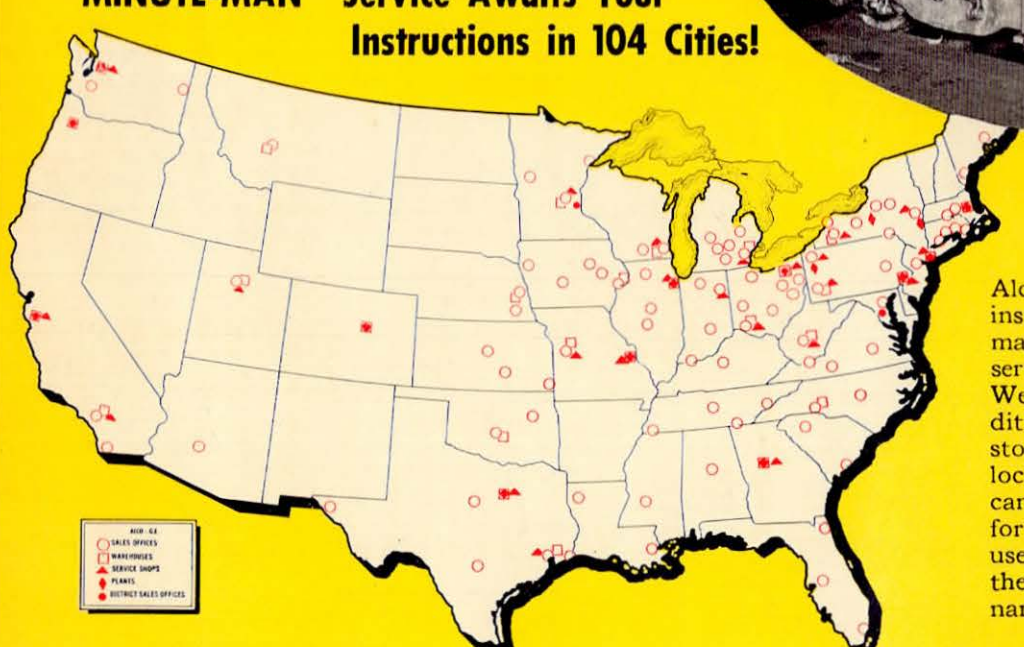
When you need a locomotive motor, for example, telephone the nearest ALCO or G-E representative or service shop.

Prompt delivery will be made to any designated point on your lines, so that . . .

. . . you can plan to remove the worn motor and install the new one at the same time. In this way . . .



"MINUTE-MAN" Service Awaits Your Instructions in 104 Cities!



Alco-G.E. service goes into action the instant you hang up your telephone. No matter where you are located, there is a service outlet within a short distance. We have 23 service shops for reconditioning major units. Complete parts stocks are concentrated in conveniently located areas from coast to coast. You can draw on any or all of these stocks for parts you need in a hurry. Make full use of these comprehensive facilities—they are tuned to your wartime maintenance needs.

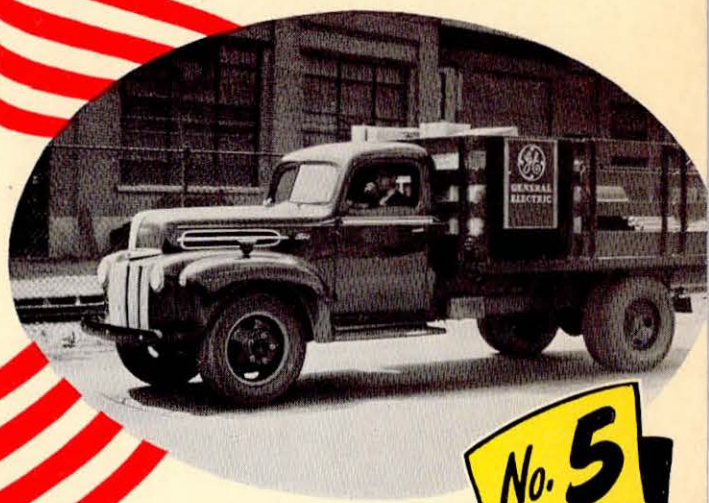
MAINTENANCE...
UNIT EXCHANGE PLAN

ADD OUR FACILITIES TO YOURS

This plan speeds major repairs on scheduled overhauls and enables you to meet emergencies with the minimum loss of time. It boosts the availability of your locomotives and increases the ton-mileage of service you can contribute to the war effort. It also relieves you of the expense of stocking large repair units. Included in the exchange plan are such major assemblies as motors, generators, turbo-chargers, and fuel pumps.

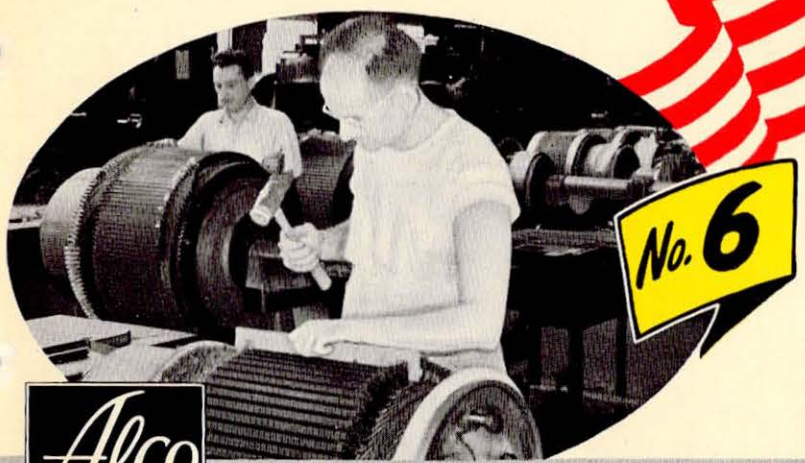
No. 4

. . . your locomotive gets back to work quickly, releasing shop space, man power, and shop equipment for other important maintenance operations. And . . .



No. 5

. . . in the meantime, the replaced motor is speeding back to the nearest ALCO-G.E. factory or service shop . . .



No. 6

. . . where we have complete facilities and can take time to do a thorough job of reconditioning. Reconditioned, the motor is placed in our Unit Exchange stock, ready for the next call. Our charge for this service is only the cost of reconditioning the returned unit.

Alco DIESEL-ELECTRIC

GE

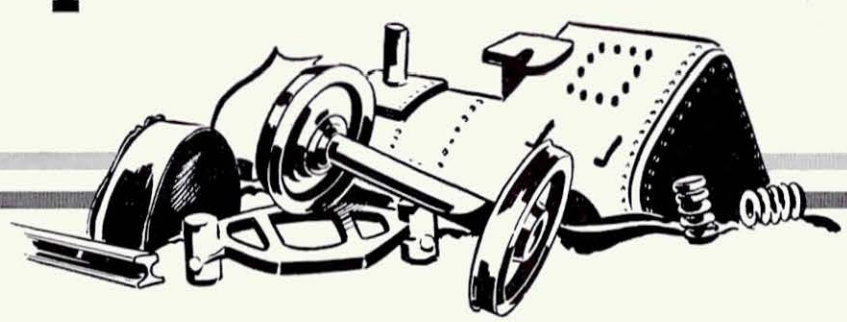
AMERICAN LOCOMOTIVE and GENERAL ELECTRIC

114-28-9580

TURN IN ALL YOUR

SCRAP

Help Shorten the War!



Let's face these facts: Waste materials—scrap metals, rubber, and all the rest—are the life-blood of America's war industry. The demand is great, the supply dwindling. Before we can win, *every pound* of these idle materials must be converted into ships, trucks, tanks, and guns. Remember, about one-half ton of steel scrap is needed for every ton of new steel produced.

There may be forgotten tons of scrap in your yards or along your right-of-way. *Put these waste materials to work.* (Steel scrap collected will be purchased by the steel industry at the established government price.)

HERE IS HOW YOU CAN HELP

1. Name a wide-awake salvage committee chairman for each division and department in your organization. Set up a definite, continuous salvage program. Inspect worn-out or obsolete equipment. If it can be used—fine! If not, why not scrap it?
2. Set a definite clean-up day for *every week.* Collect everything that is not useful.
3. Separate the scrap—ferrous and non-ferrous metals, for example. Then call the scrap dealer.
4. Urge your employees to collect old rubber and discarded metal household equipment and get it to a local salvage committee, charity or junk dealer.

★ ★ ★

The reward is great: American lives saved and a shorter war. It's a job that everyone must share in doing for the duration. The Armco Railroad Sales Co. Inc., 2460 Curtis Street, Middletown, Ohio.

★ ★ ★ ARMCO ★ ★ ★

This advertisement is in support of the Salvage Program of the Bureau of Industrial Conservation, the War Production Board.

OVER 1,000,000 FREIGHT CARS

have been equipped with ASF side frames and bolsters

A lot of side frames and bolsters? Yes . . . and they mean a lot of development work too. Over 40 years of it. For "The Foundries" has constantly improved designs to meet changing conditions.

Self-Aligning Trucks are designed for today's requirements . . . they *stay on the job* of moving heavy traffic. Maintenance costs are low . . . wheels are quickly removed . . . springs are most accessible . . . and . . . large bearing areas between bolsters and frames insure long wear.

They are under more than 100,000 freight cars.

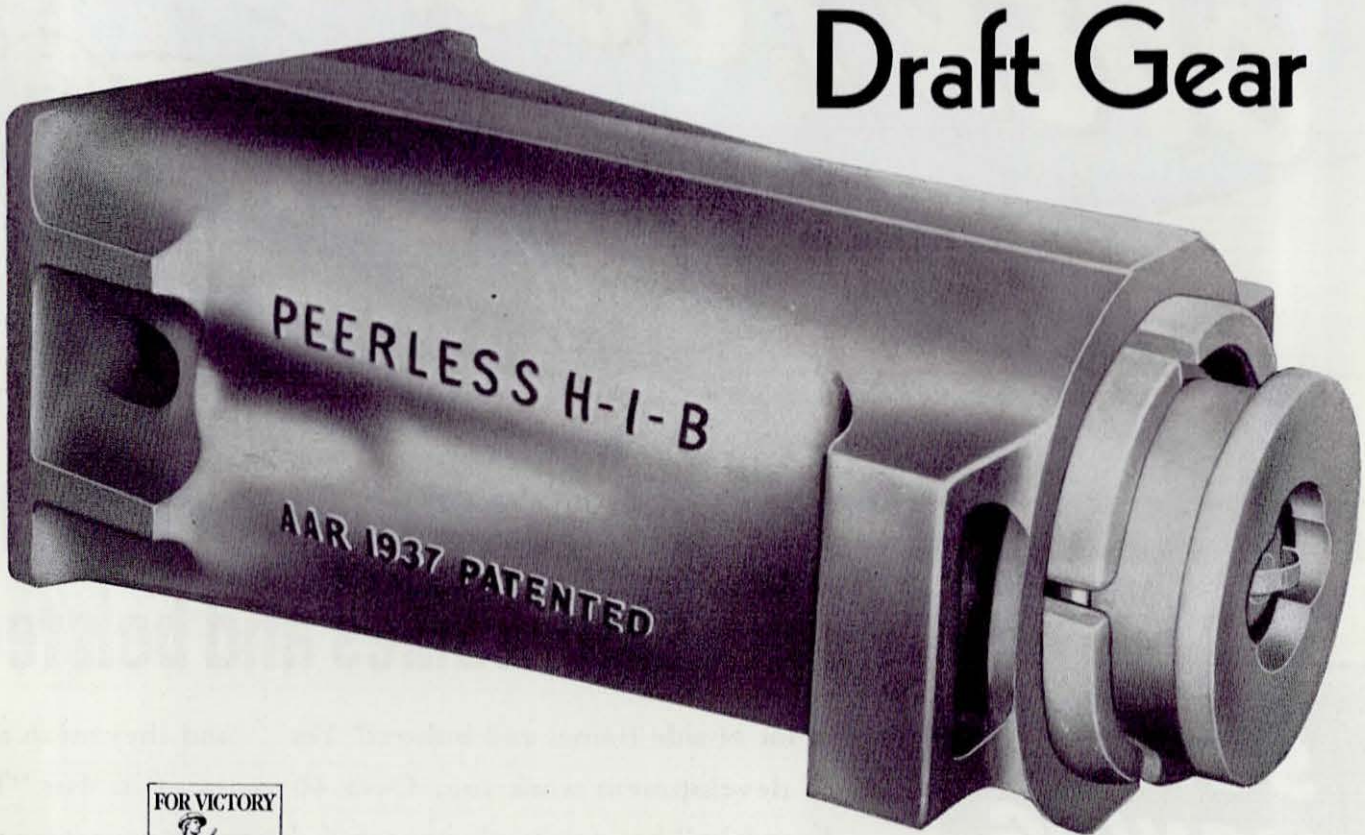
SELF ALIGNING TRUCKS

Utilize standard springs • Fewest number of parts • Easiest to inspect • Easiest to shim • Lightest weight • Lowest cost.

AMERICAN STEEL FOUNDRIES

PEER

H-1-B Draft Gear



A.A.R. Approved

PEERLESS EQUI

LESS

OUR HAT IS IN THE RING FOR UNCLE SAM

For Better, Safer Transportation

That is why we have built into the* PEERLESS H-1-B DRAFT GEAR, *outstanding features such as:

LIGHT WEIGHT and a Gear design to insure uniform action, high absorption and low recoil.

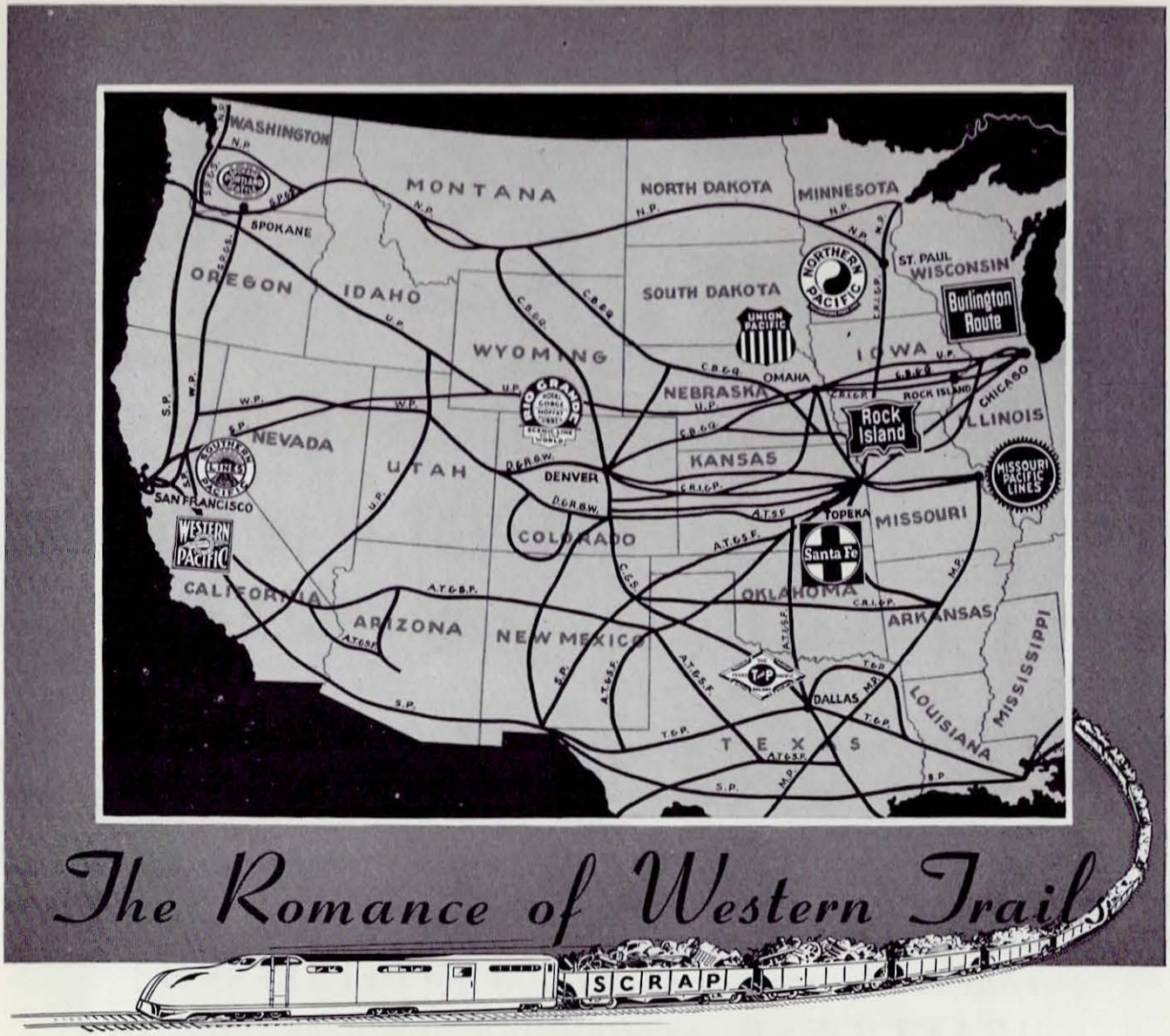
HEAVIER PAYLOAD can be carried because of the weight which has been saved in the construction of the Gear.

MAXIMUM PROTECTION against impacts and shocks to both car and lading at all times and under all traffic conditions.

LONGER SERVICE LIFE and years of trouble-free service are assured by the rugged construction of the PEERLESS H-1-B Draft Gear.

PMENT CO.

310 So. Michigan Ave.
Chicago, Illinois



The Romance of Western Trail

TIME . . . A. D. 1972

Back in 1942 the world was clouded with an unfortunate war. A war brought on by the dictatorial desires of madmen drunk with the lust for power. A mechanized war testing this nation's resources and productive ability as never before. It was a race of conversion from peacetime products to that of tanks, planes, guns and ships. American industry smashed all production records with great quantities of war materials moving to all of the numerous fronts before the war had run the course of its first full year.

A major triumph of this period was the magnificent manner in which the American Railroads solved difficult and complicated transportation problems. Railroads fought a battle of hours . . . this all important timing was indirectly responsible for the substantial and lasting victory which now seems secure.

The transcontinental railroads were responsible for another vital contribution to the peace we now enjoy. Fearlessly facing the national problem of steel scrap, executives made decisions to scrap old locomotives, abandon bridges, spur tracks, and all obsolete equipment . . . they combed their shops, stores, yes even rights-of-way to move every available piece of steel and iron into the steel mills.

They even established accumulation depots on their trackage to aid in this all-important task. Carload after carload moved promptly to industries needing these vital materials. Transcontinental lines of the West and Middle West set up a record of accomplishment, a tremendous help in winning the war directed toward a lasting peace.

The Colorado Fuel and Iron Corporation

Makers of CF&I RAIL AND FASTENINGS

GENERAL OFFICES: DENVER, COLORADO

THIS ADVERTISEMENT IS RUN THIRTY YEARS AHEAD OF SCHEDULE

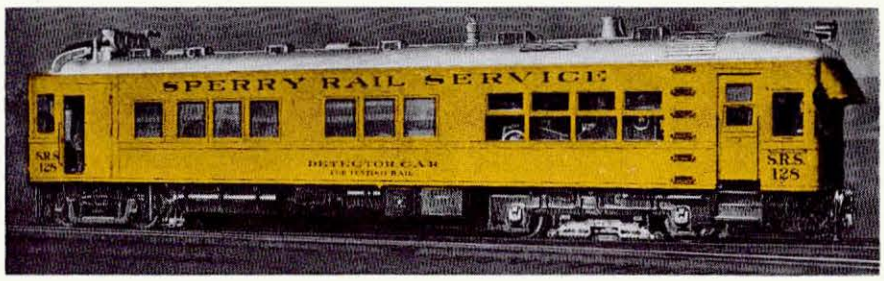
for Outstanding Safety!

Of the forty major railroads competing in Group A, the Eastern District of the Union Pacific System has been awarded the Harriman Gold Medal for the operating year 1941, having recorded the lowest total weighted casualty rate of any railroad in the Group

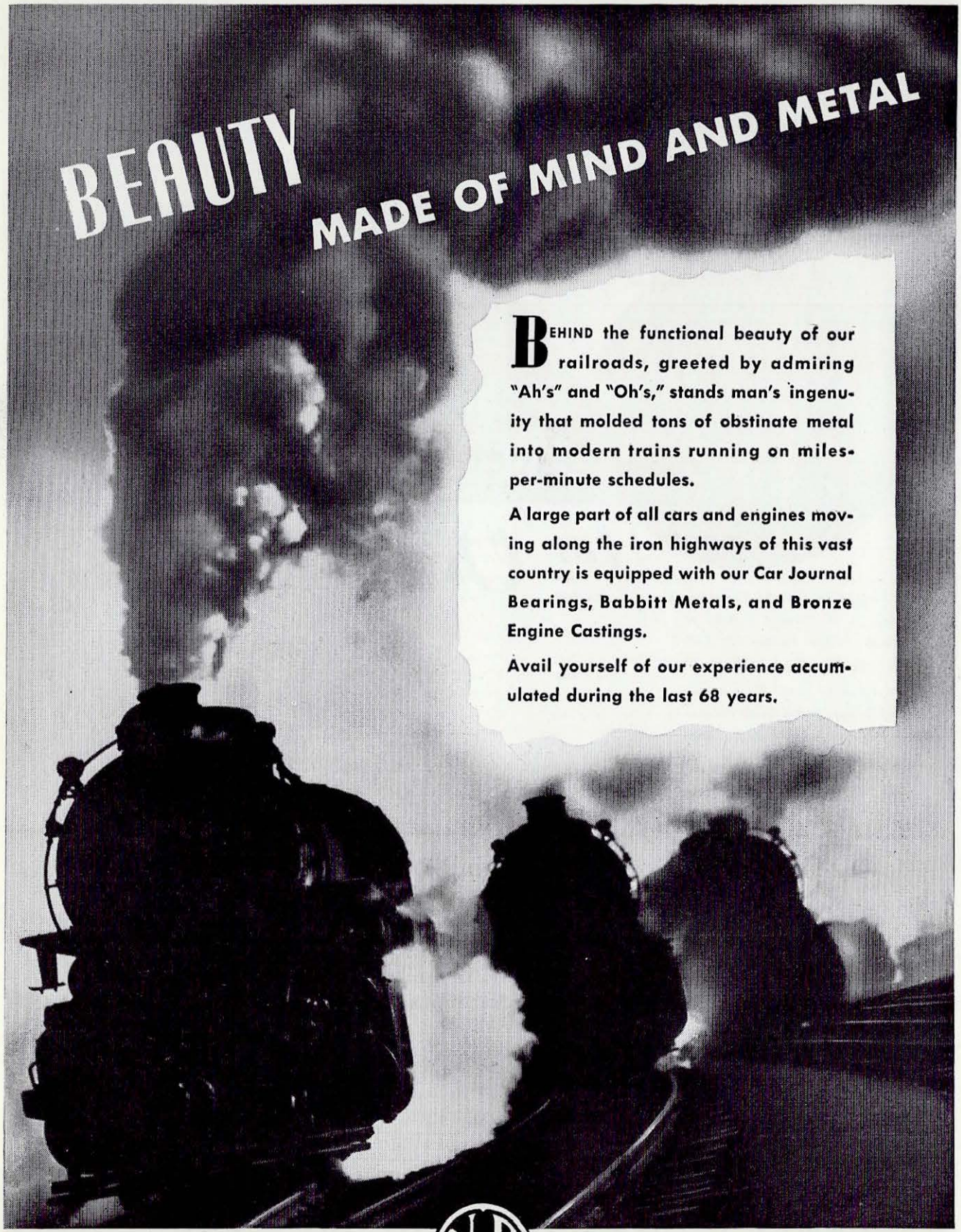
Excerpt from Citation, Harriman Medal award

"According to the records of the I.C.C., the Union Pacific has, of Jan. 1, 1942, accumulated 5,762,000,000 passenger miles without a passenger fatality in a train or train-service accident. This is the best record in Safe Transportation thus far established."

One of the principal means for assuring maximum safety on the Union Pacific is use of Detector Cars operated by Sperry For the past 3 years, the U. P has employed 2 such cars testing continuously, and has thus been able to effect timely removal from track of rails grown defective in service.



SPERRY RAIL SERVICE • HOBOKEN, N. J. • CHICAGO, ILL.



BEHIND the functional beauty of our railroads, greeted by admiring "Ah's" and "Oh's," stands man's ingenuity that molded tons of obstinate metal into modern trains running on miles-per-minute schedules.

A large part of all cars and engines moving along the iron highways of this vast country is equipped with our Car Journal Bearings, Babbitt Metals, and Bronze Engine Castings.

Avail yourself of our experience accumulated during the last 68 years.

NATIONAL BEARING METALS CORPORATION

NEW YORK—ST. LOUIS

Where Can We Get More Motive Power

to carry the war-load

...— IN TIME ?

It's a war of *movement!* . . . and we *must not* move "too little, or too late". We can't wait for *new* locomotives. We've got to drive *existing* motive power harder and faster.

We can't spend 90 minutes to service driving-journals with grease—when we can do it in 15 minutes with OIL. We can't spare two weeks in the shop for machining brasses and turning axles—when we can pile 250,000 continuous miles on *OIL-lubricated* driving journals. We can't afford to use vital brass for *new* crown bearings —when the present ones will last indefinitely, with Hennessy *mechanical* OIL-lubricators in the journal-boxes.

Find out how easily you can release *more ton-miles, right away,* from *present* locomotives, as 20 Class I roads have already done. Write:

HENNESSY LUBRICATOR CO., 75 WEST ST., NEW YORK

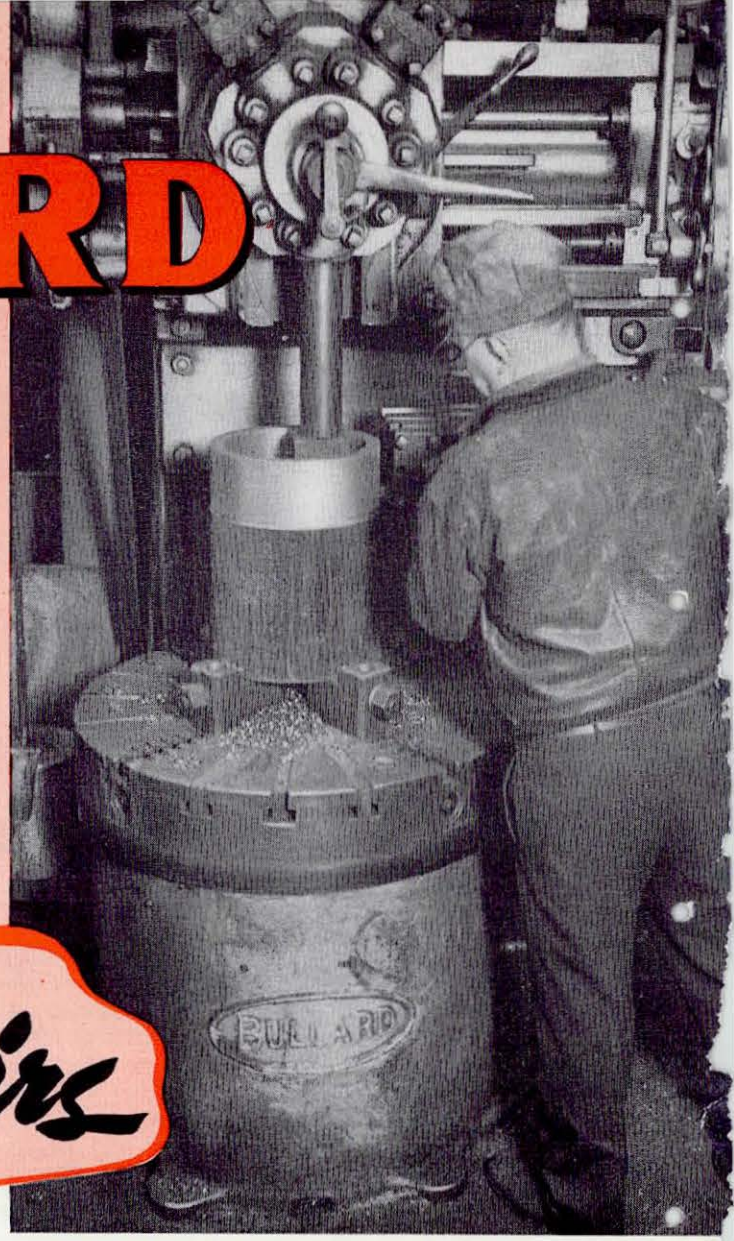
HENNESSY LUBRICATOR

MECHANICAL LUBRICATORS
FOR *all* JOURNALS
OF RAILWAY EQUIPMENT

Journals run in a bath of oil that flows faster as speed increases.

BULLARD

VERTICAL TURRET LATHES



Speed Up Repairs

EVERY factor which will help to speed power through the shops is of vital importance to the war transportation effort.

To "Keep 'Em Rolling", through the erecting bay, demands a constant stream of parts from the machine shop. In this case, the determining factor is the production capacity of the machine tools.

BULLARD Vertical Turret Lathes are doing a splendid job in the nation's leading railroads shops. They are handling about 75% of all the boring jobs and turning them out in 50% less time than the ordinary mill.

It is obvious that the production costs must be in proportion to the time savings — therefore BULLARDS are not only helping to speed power through the shops, but also are a contributing factor in the reduction of classified repair costs.

THE BULLARD COMPANY

BRIDGEPORT, CONNECTICUT

KEEP YOUR LOCOMOTIVES

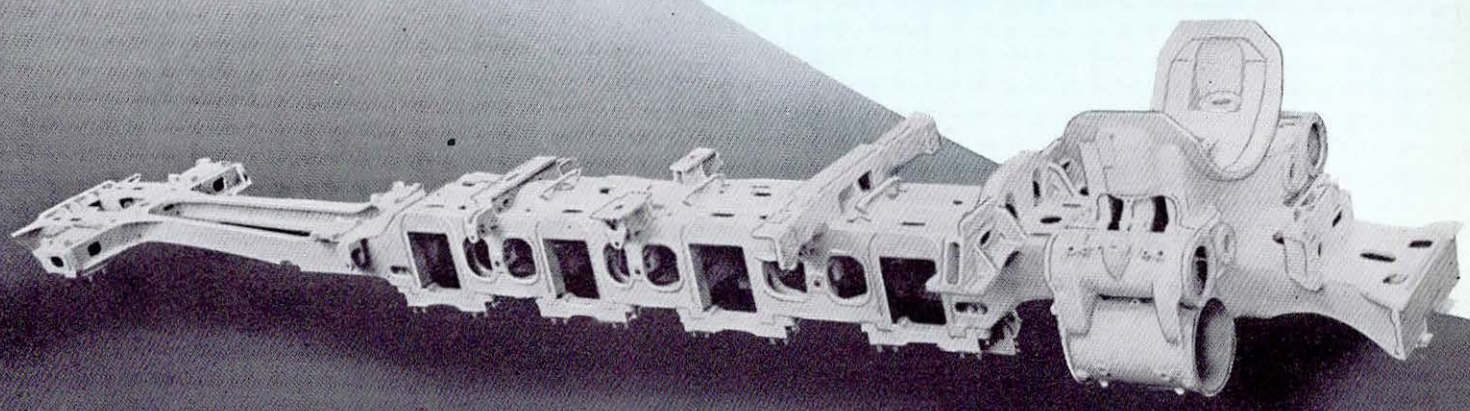
In Action Longer

With COMMONWEALTH One-Piece Locomotive Beds

IT IS a proven fact that locomotives equipped with COMMONWEALTH Cast Steel Locomotive Beds spend less time in repair shops—give more useful miles of active service.

COMMONWEALTH Locomotive Beds incorporate in a single strong casting the main frames of the locomotive, the cylinders, cross bracing, deck castings, and various brackets—eliminating many separate parts and hundreds of bolts and nuts. They provide *greatly increased strength with less weight—simplify locomotive design and construction.*

Because America's War Effort *demands* intensive, continous locomotive operation, the benefits derived from the use of Commonwealth Products are more important than ever today.

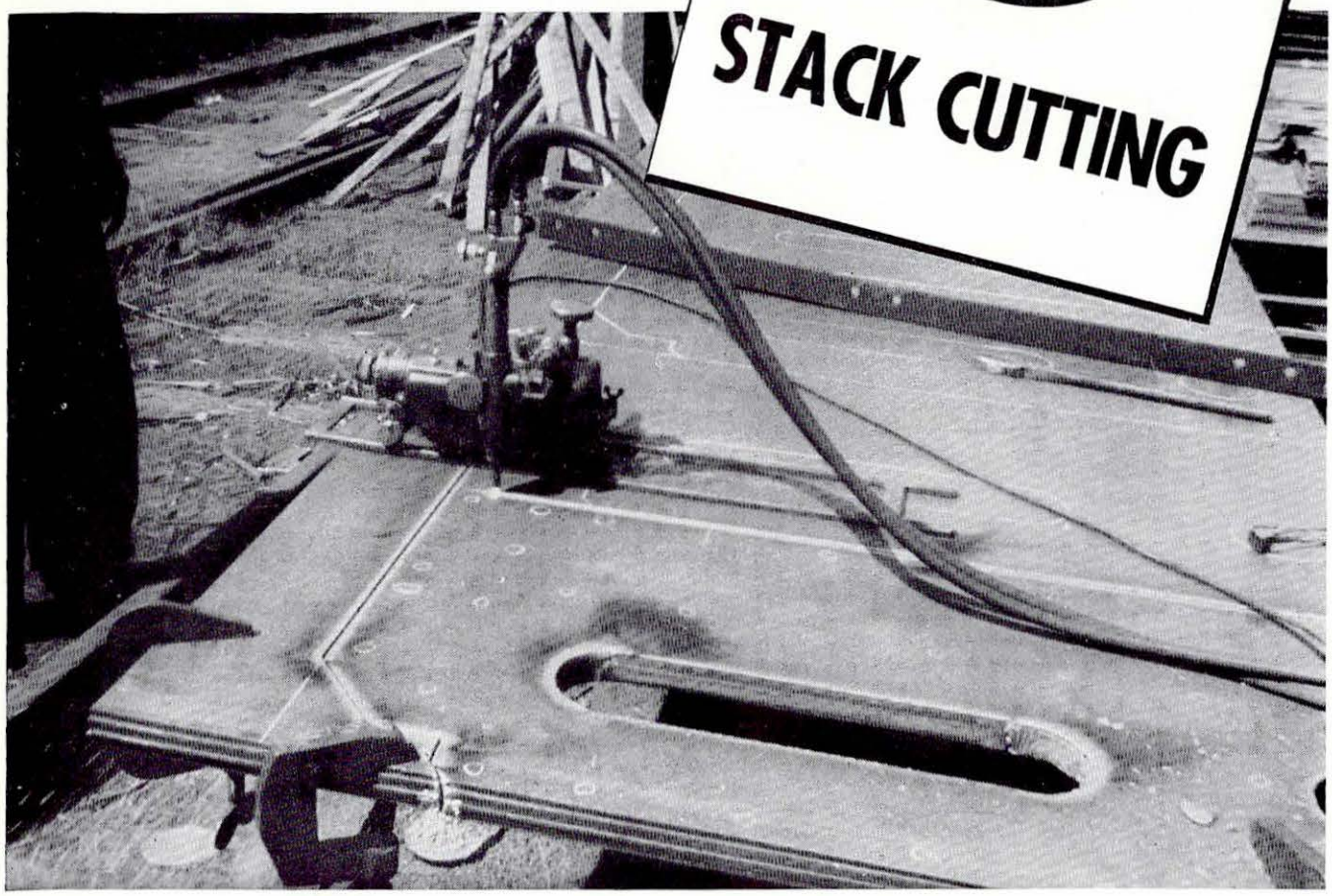


GENERAL STEEL CASTINGS

Eddystone, Pa. Granite City, Ill.

REBUILD STEEL CARS THAT CAN'T BE REPLACED . . . .

AND DO IT QUICKLY with AIRCO STACK CUTTING



Replacing 52 steel cars was the problem confronting this railroad — costly delay seemed inevitable because of slow delivery. So it was decided to rebuild the old cars utilizing the Airco Oxyacetylene Cutting Process. Rivets were washed out and the bottom and side sheets were replaced with sheets machine gas cut from new steel. Eight ¼-inch steel plates were stacked, clamped into position and flame cut with a single torch simultaneously. Speed and accuracy of cuts was comparable to that obtainable when cutting only one piece. Thus, thanks to Airco Stack Cutting, the cars were quickly rebuilt and restored to service.

Numerous car and locomotive replacement parts are now being built this speedy Airco way by railroads when they cannot get deliveries. Be sure your road is taking full advantage of this opportunity. Inquiries on further information are invited.

Air Reduction

General Offices: 60 EAST 42nd ST., NEW YORK, N. Y.

IN TEXAS:
MAGNOLIA-AIRCO GAS PRODUCTS CO.
General Offices: HOUSTON, TEXAS
OFFICES IN ALL PRINCIPAL CITIES

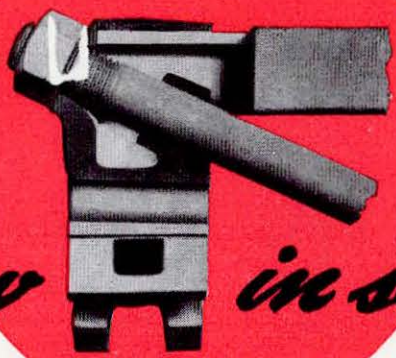
AIRCO — WILSON

IDLE CYLINDERS ARE PRODUCTION SLACKERS: *Keep 'em rolling for victory!*

Decrease brake beam failures

with **SLEEVE HEADS**

This new approved sleeve incorporated into standard A.A.R. brake head...gives greatly increased tension rod life.



Over 2,500,000 now in service

CHICAGO RAILWAY EQUIPMENT CO.

McCormick Building, Chicago

TAKE a good look at this gloating scoundrel . . . our evil enemy . . . the Axis. He's gloating, but without good reason. Conservation of present materials is one way to help wipe off his grin. For instance, those dependable Exide-Ironclad Batteries used for air-conditioning and lighting cars on so many railways, will last longer if cared for properly. A few simple steps will do the job. Just follow these rules, and *Save to Win!*

Exide IRONCLAD BATTERIES

MAKING BATTERIES LAST HELPS STOP THE AXIS!

1. Keep adding approved water at regular intervals. Most local water is safe. Ask us if yours is safe.
2. Keep the top of the battery and battery container clean and dry at all times. This will assure maximum protection of the inner parts.
3. Keep the battery fully charged—but avoid excessive over-charge. A storage battery will last longer when charged at its proper voltage.
4. Record water additions, voltage, and gravity readings. Don't trust your memory. Write down a complete record of your battery's life history. Compare readings.

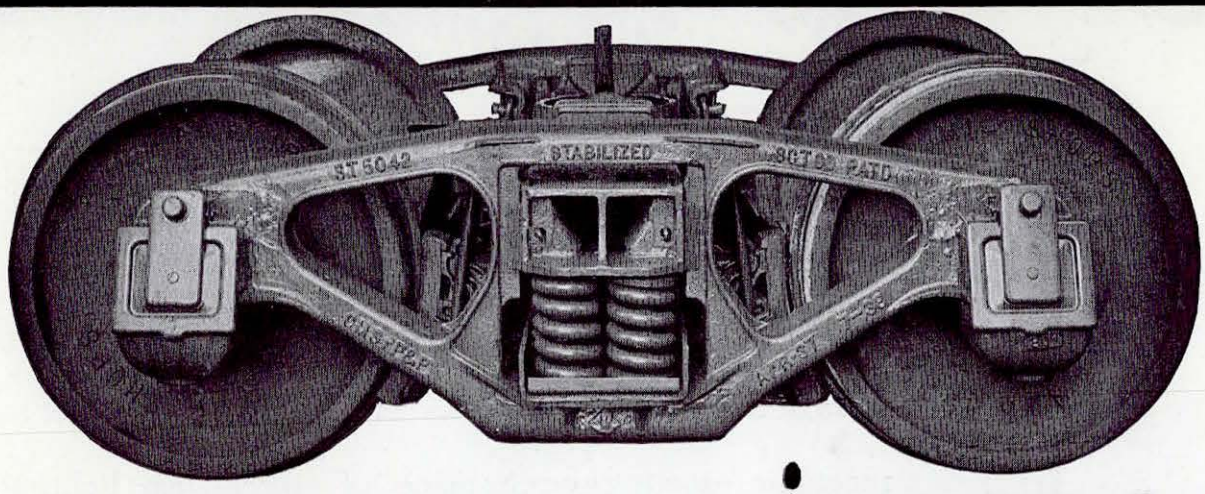
If you wish more detailed information, or have a special battery problem, don't hesitate to write to Exide. We want you to get the long-life built into every Exide Battery. Ask for booklet Form 3814.

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia
The World's Largest Manufacturers of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto

Transportation is Vital to Victory

Keep Your Freight Cars Serving Dependably—

BARBER *STABILIZE* YOUR TRUCKS



BARBER STABILIZED PARTS

when built into your trucks, at *small cost*, prevent excessive spring bouncing and harmonic action, so that countless jars, due to high speeds and track surface irregularities, are safely absorbed.

The use of Barber Stabilized Parts reduce car repair costs, prolong car life, increase car availability and considerably lessen car damage.

The existing shortage in men, materials and equipment make these benefits vitally important to the railroads and our war effort. Specify Stabilized Parts when ordering trucks for new and rebuilt cars.

Over 58,000 Cars with Stabilized Parts Are Now in Service!

Reduce Harmonic Bouncing

Protect Cars and Lading

Increased Speeds with Greater Safety

STANDARD CAR TRUCK COMPANY
332 SOUTH MICHIGAN AVENUE CHICAGO, ILLINOIS

Check with us— on war jobs requiring accuracy, reliability and prompt delivery

For years The Safety Company has been successfully engaged in building electric generators, motor alternators, voltage and current regulators and kindred equipment to meet the exacting requirements of railroad car lighting and air conditioning.

With the same plant and personnel, we are now turning out electric equipment and precision ordnance parts for a still tougher assignment—VICTORY.

We are ready and eager to do more — and more.

Check with us

THE SAFETY CAR HEATING AND LIGHTING COMPANY, INC.

New York Chicago Philadelphia Boston
St. Louis San Francisco Montreal

To good steel add expert

CRAFTSMANSHIP

With forgings, long life and satisfactory service depend upon this simple formula. Good steel plus expert craftsmanship are responsible for Standard's 147 years of success in steel product manufacture. Today, as in the past, Standard's proven quality is being maintained in the many steel products being delivered to the railroads. Included among these are tires, steel wheels, springs, axles, crank pins, connecting rods, piston rods, driving wheel centers and many other parts made by Standard.

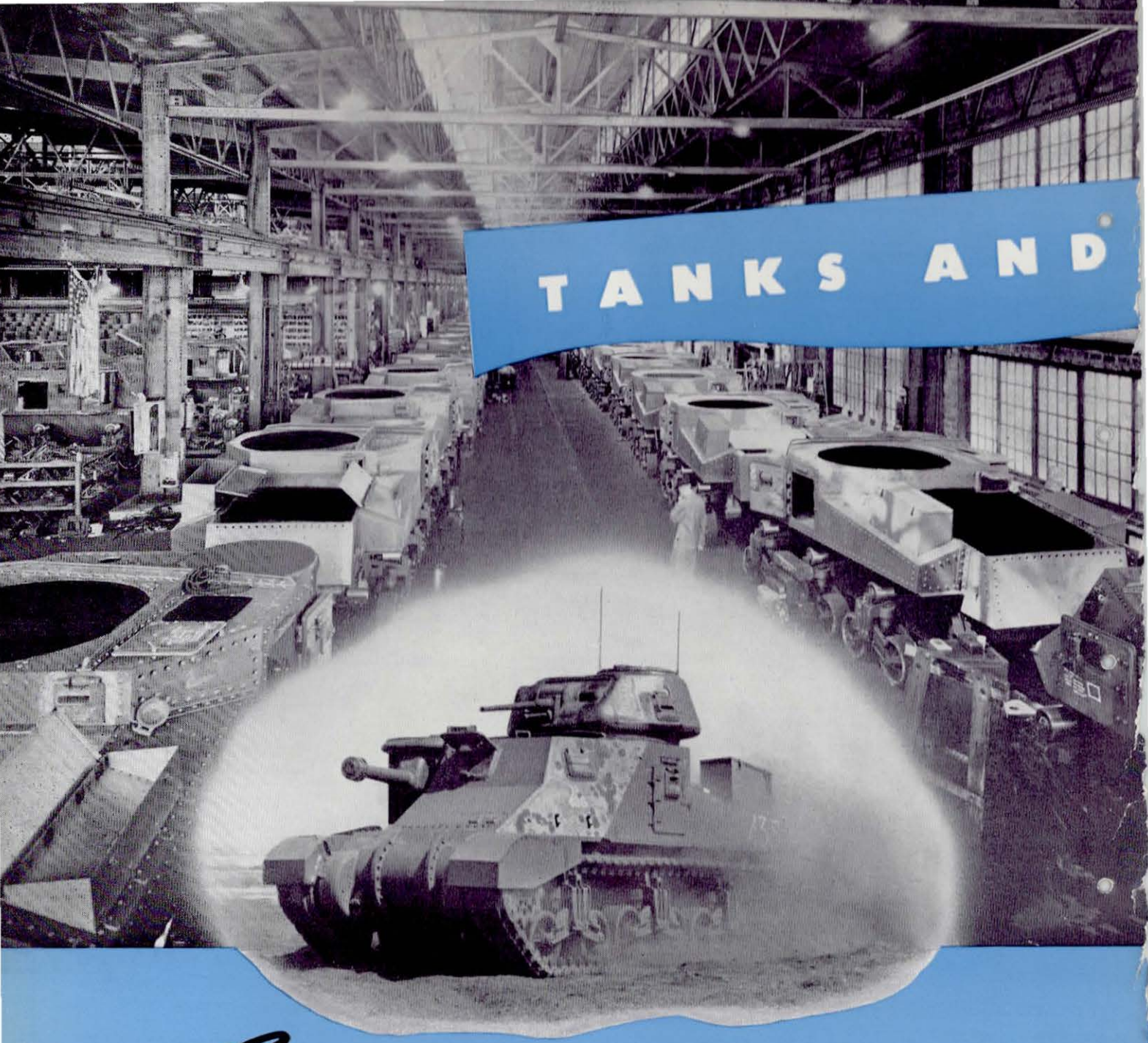
The dependability built into each product is safeguarded by rigid control of every phase of production from acid open hearth to finished forging. Expert chemists and metallurgists carefully analyze all materials . . . trained personnel takes pride in strict adherence to customer specifications . . . and Standard's 119-acre plant offers the most modern shop facilities for producing better steel products.

If you require a dependable source of supply for steel forgings of high quality . . . try Standard.

FORGINGS • ROLLED WHEELS • TIRES • CASTINGS • SPRINGS

STANDARD STEEL WORKS

DIVISION OF
THE BALDWIN LOCOMOTIVE WORKS
PHILADELPHIA



America is getting both..

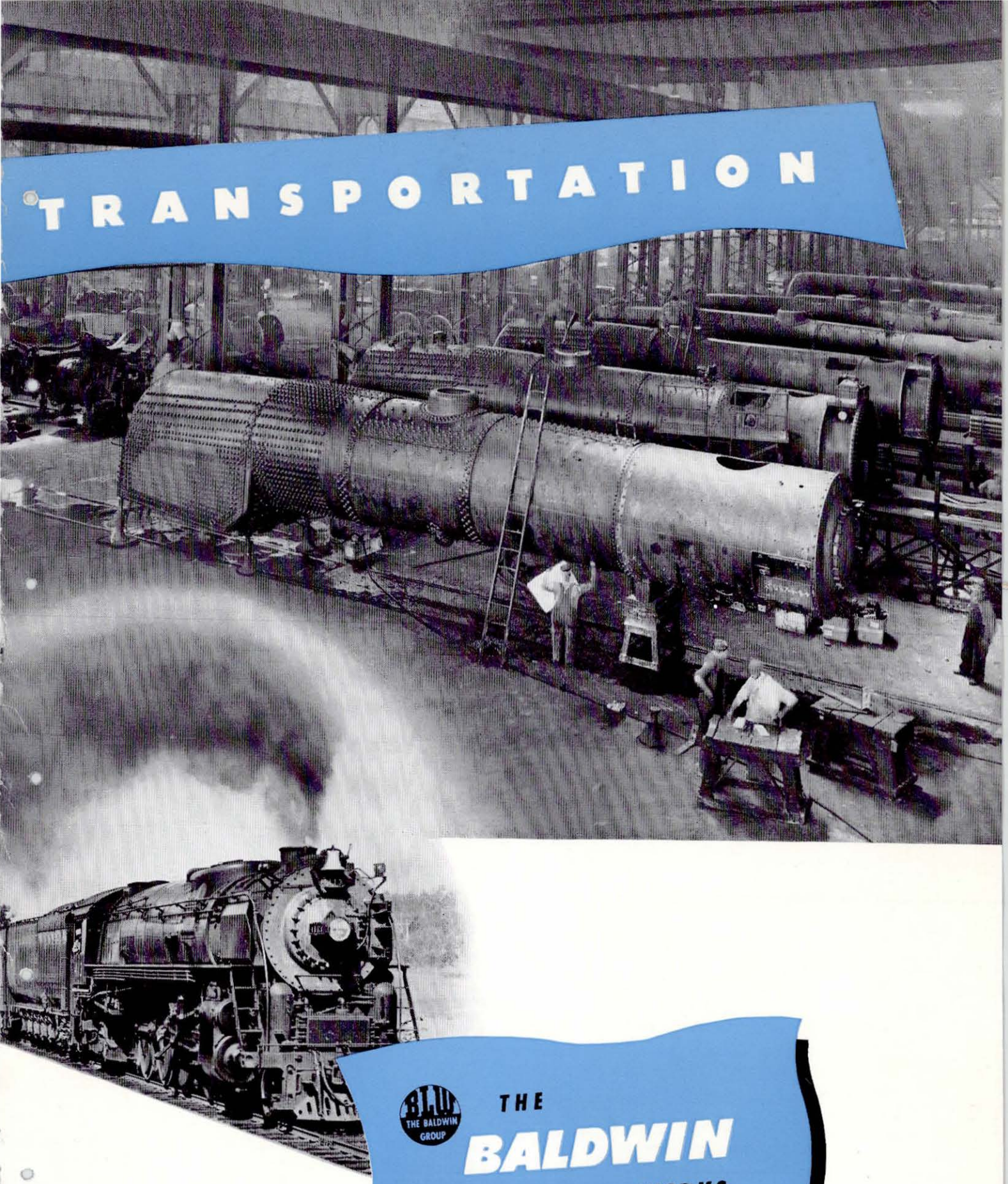
Military tanks and railroad locomotives, rolling side by side from the Baldwin shops, are two of the many contributions of this century-old locomotive builder to a Nation at war.

The skill and experience developed in the service of the railroads, is making possible the rapid production of locomotives, tanks, gun tubes, barbette gun carriages, ship propellers, hydraulic presses for aircraft and shell production—all needed to equip our armed forces or to provide the land, sea and air transportation without which armies cannot function.

Modern steam power built by Baldwin is helping the railroads to haul the greatest tonnage in their history. Baldwin diesel-electric switching locomotives are speeding freight car movements through yards and terminals.

Since its founding in 1831 Baldwin has served the railroads of America. Today—

Baldwin serves the Nation which the Railroads helped to build.

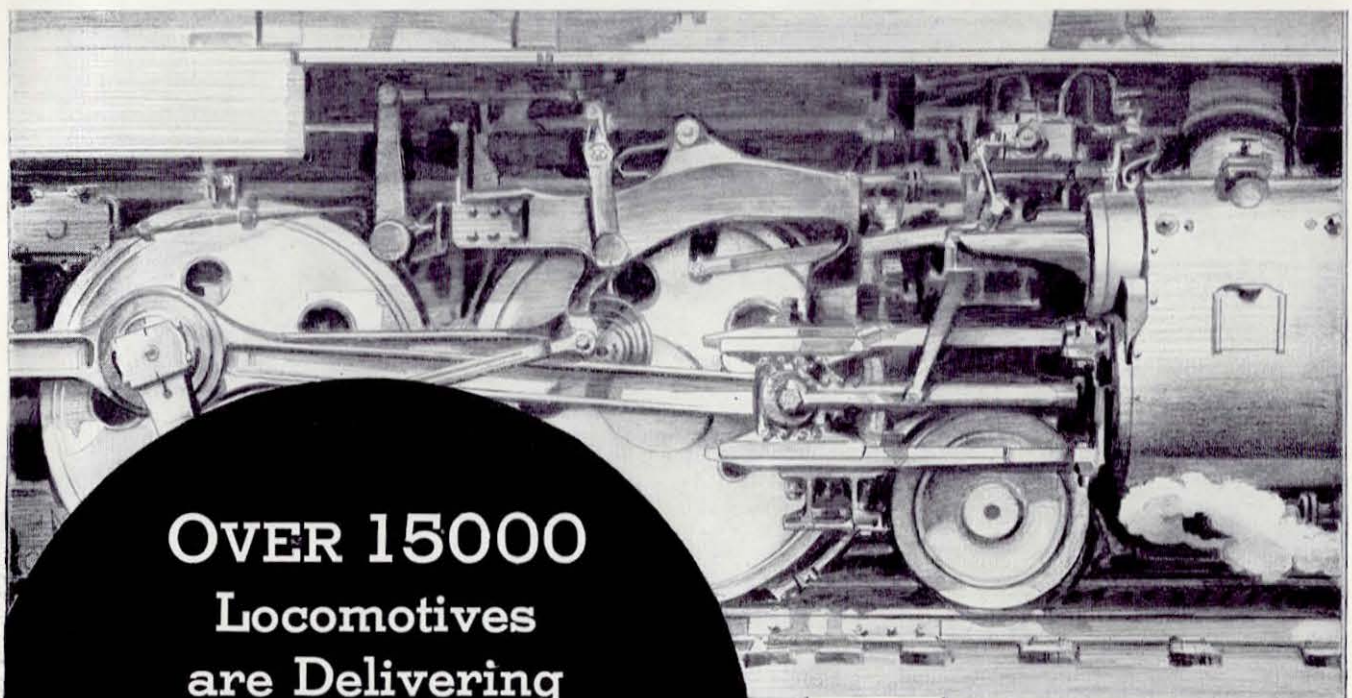


BLW
THE BALDWIN GROUP

THE
BALDWIN
LOCOMOTIVE WORKS
Philadelphia

STANDARD STOKERS

KEEP 'EM ROLLING AT TOP SPEED



OVER 15000
Locomotives
are Delivering
Maximum Capacity
at
Sustained High Speed
with
Standard Stokers

THE STANDARD STOKER COMPANY, INC
NEW YORK • CHICAGO • ERIE •

SSC
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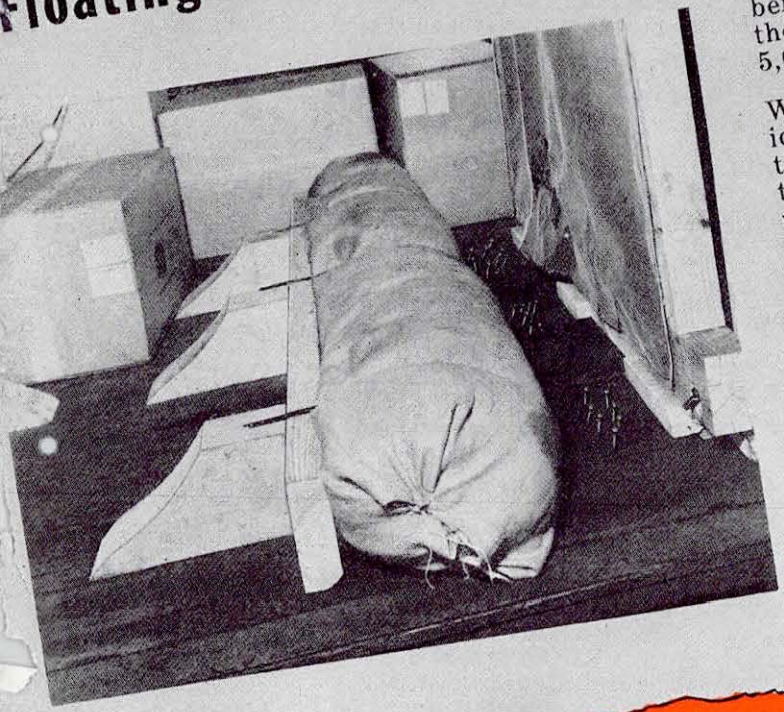
HOW TO REDUCE DAMAGE CLAIMS

(when DURYEA CUSHIONED CARS are not available)

"Floating Load" is used to Eliminate Shock in Shipping

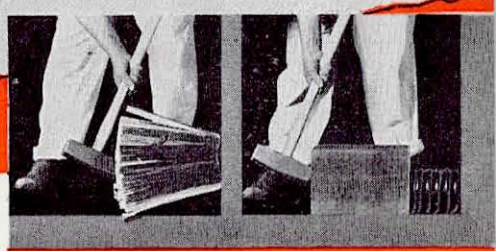


The "floating load," a new packing method, is being used by the General Electric Company in the shipment of much equipment weighing from 5,000 to 30,000 lbs. loaded in box cars.

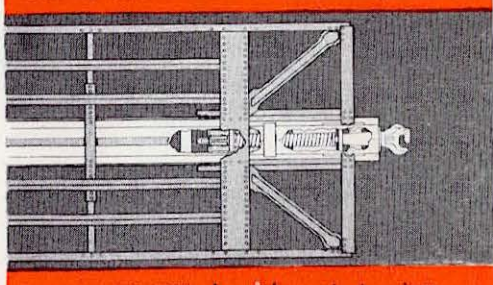
When a fragile piece of apparatus is blocked solidly to the car floor, shock to the car is transferred to the apparatus. With the floating load method the apparatus is merely placed on the car floor, not fastened to it, and is held in position by end bumpers and by side braces to keep the load from weaving sideways. Then when the car is subjected to shock it is simply knocked out from under the load, and the car rather than the apparatus receives most of the shock.

A roll of excelsior—wrapped in burlap at each end of the load—acts as a cushion-like bumper. Spikes driven into the floor just ahead of the load at each end and projecting 2 or 3 inches above the floor provide an excellent retarder.

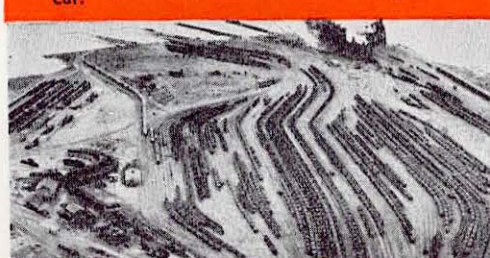
(Reprinted by permission from RAILWAY AGE, May 23, 1942.)



HOW DURYEA CUSHIONING lessens shock. Left: Block of wood (sill) against wall will crack when hit with sledge. Right: With spring allowing block (sill) to slide, hardest blows cause no damage.



PHANTOM VIEW shows how giant springs and floating center sills cushion each wallop, protecting car and contents. Duryea Cushion Gear lasts entire life of car.



RAILROAD MEN: Duryea Cushioning reduces maintenance costs and damage claims; now costs no more than conventional construction. Plan for the future—investigate now.

Here's an ingenious way to lessen the risk of damage to fragile shipments—and to keep down damage claims—*when you can't get the 100% shockproof protection of a Duryea-Cushioned Car.*

The loose loading, retarding spikes and bumpers described above, combine to produce a "floating" action somewhat similar in principle to Duryea Cushioning.

Duryea For Speed and Economy

Duryea's floating center sills carry each jolt under the car, allowing contents to *ride over* the wallop, unharmed. Unlike ordinary draft gears, Duryea gear never sticks or "goes solid." Heavier loads and faster handling are possible with a minimum of packing expense.

Hence the constantly growing demand for Duryea cars for war materials.

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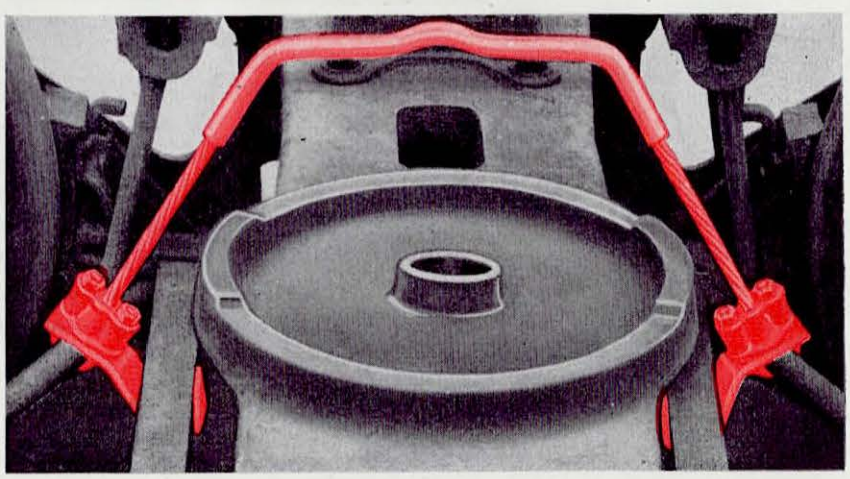

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The railroads are breaking record after record in handling a huge volume of traffic which means that the cars are taking terrific punishment. . . . With steadily accruing maintenance and repairs, the railroads still face their biggest job.

★ ★ ★

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a start should be made NOW

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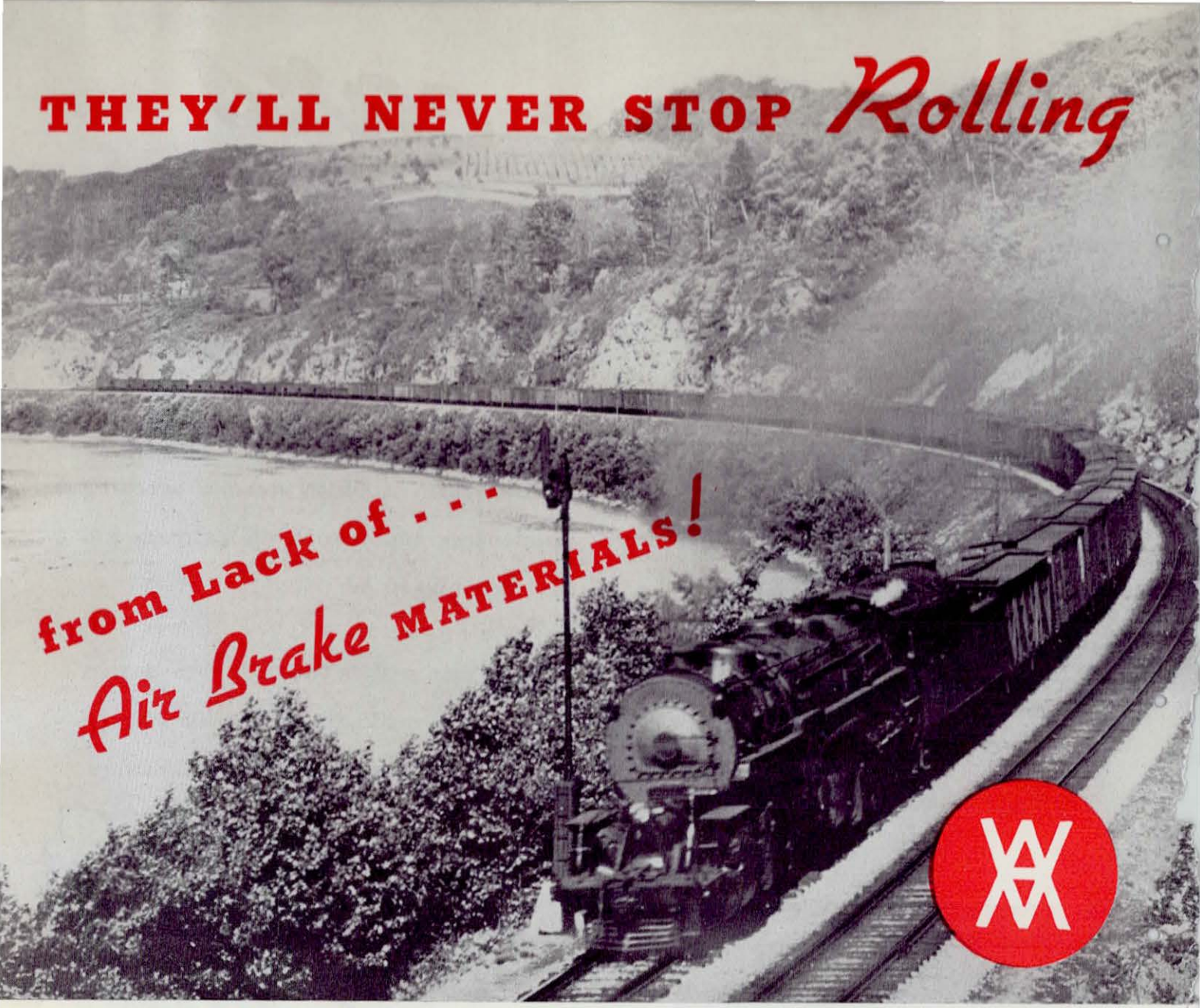

SUCH is our purpose — such is the objective on which our talents are focused, our facilities concentrated • We too have gone "all out" in our endeavor to keep supply lines moving so that safe, reliable railroad service may continue uninterrupted. This has entailed careful planning, the exercise of our every resource • In the common effort to conserve critical materials, we have made substitutions, redesigned the form of many details, changed processing. Every modified part has been proved by laboratory tests, its use sanctioned by the A.A.R. committee. Nothing that would interfere with over-all functional integrity has been permitted • By this conservation program in changing the nature of less important elements, we are enabled to preserve the required characteristics of vital parts, maintain regular production (along with extensive war work), and keep air brake apparatus coming to you as NEEDED • We are resolved to fulfill our responsibility in helping to prevent the arrival of "too little, too late".

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C. E. Smith says orders and delivery dates must be followed closely—Inventories of critical materials must be watched as never before.

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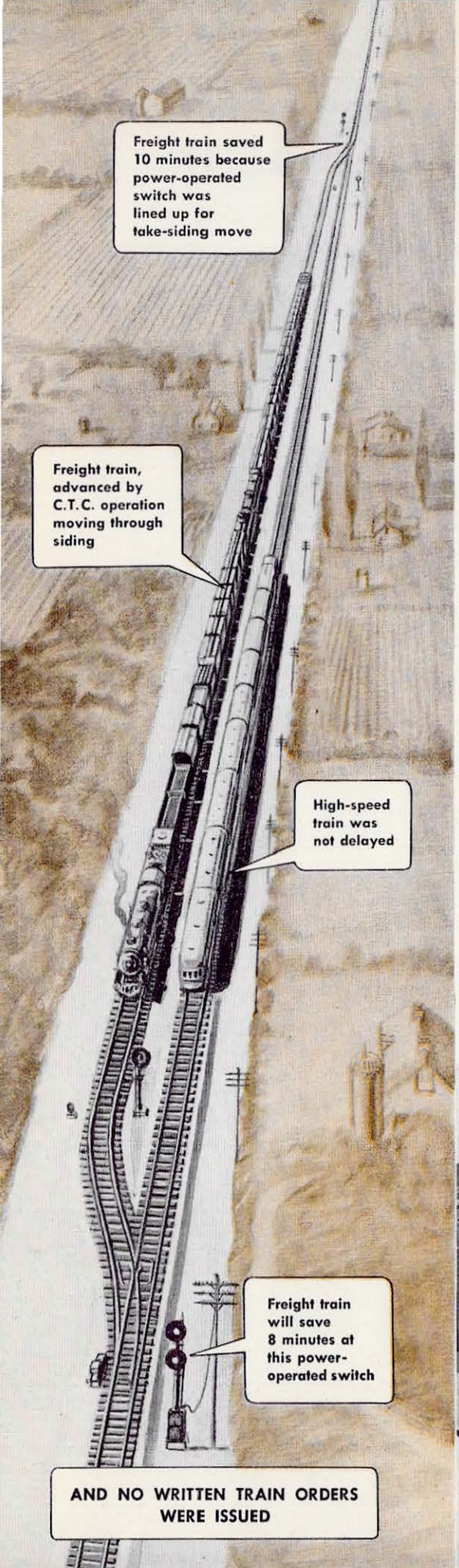
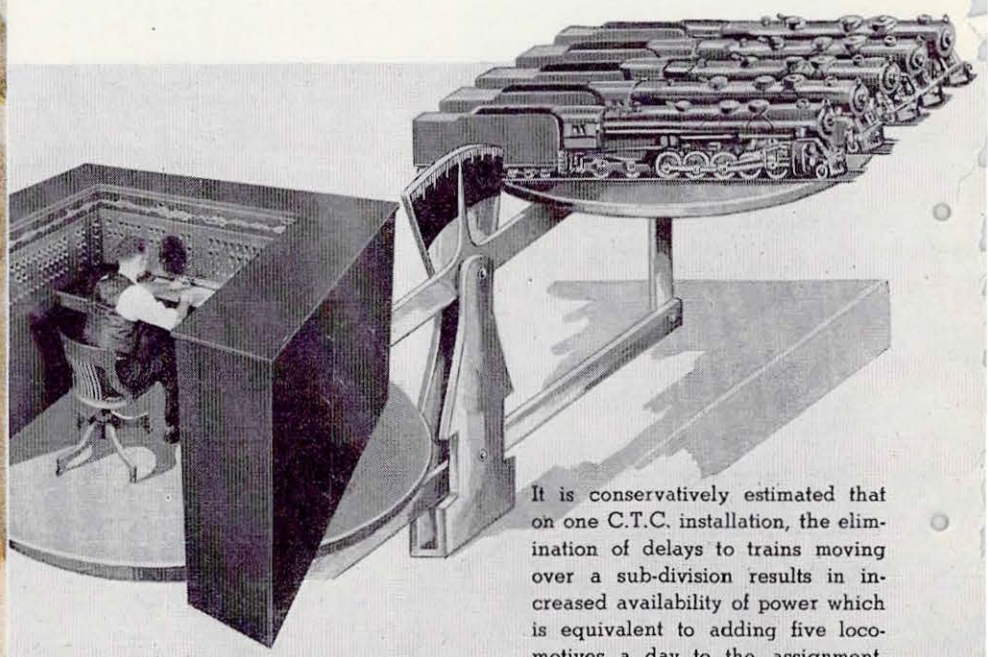
The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

PRINTED IN U. S. A.

Do You Need Increased Track Capacity --Quickly?

ONE eastern railroad obtained increased track capacity with safety on 64 miles of single track by installing "Union" Centralized Traffic Control. This system is the most efficient and effective means of dispatching trains. It eliminates all written train orders. It provides accurate information as to the location and minute-to-minute progress of all the trains on the line. The dispatcher employs this information together with his intimate knowledge of the territory, engine crews, motive power and tonnage to skillfully plan the meets and passes and so to obtain the utmost in operating efficiency. His orders are delivered directly to the engine crews by signal indications at the points of expected action. • Furthermore, the comparatively short period of time required to complete this installation of "Union" Centralized Traffic Control has resulted in increased track capacity being available now—when it is needed most.


Freight train saved 10 minutes because power-operated switch was lined up for take-siding move
Freight train, advanced by C.T.C. operation moving through siding
High-speed train was not delayed
Freight train will save 8 minutes at this power-operated switch
AND NO WRITTEN TRAIN ORDERS WERE ISSUED



It is conservatively estimated that on one C.T.C. installation, the elimination of delays to trains moving over a sub-division results in increased availability of power which is equivalent to adding five locomotives a day to the assignment.

UNION SWITCH & SIGNAL COMPANY
SWISSVALE, PA.

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

The Week at a Glance

INGENUITY NOT ENOUGH: Railroads are to a far larger degree a war facility in this conflict than they were in World War I, because this war is absorbing so much larger a part of total national production than the last war did. The carriers are now devoting 50 per cent of their service to war purposes and this ratio will rise to two-thirds and maybe to three-fourths. It is not consistent or realistic to allocate material for building war goods and, at the same time, to fail to allocate the transportation materials necessary to get the war goods to their destination. The leading editorial herein directs attention to the supreme resourcefulness the railroads have shown, but maintains that such ingenuity cannot substitute indefinitely and without limit for tangible metals.

●

EASTMAN ON MATERIAL: The danger that the railroads will not get all the material allocated to them is a graver one than the peril they face from scanty rations, in the opinion of Joseph B. Eastman. In a customarily pointed statement herein the ODT Director urges the necessity for reclamation, even when contrary to economy; the use of less-desirable substitutes; and the sharing by "have" carriers with "have-nots." He fears trouble when cold weather sets in, if maintenance standards slip before that time. He is unshaken in his conviction that the railroads need more equipment than has yet been rationed to them.

●

LEAN DAYS AHEAD: Conditions will get much tighter before they get better—such is the warning of the WPB's Andrew Stevenson in his outline of the materials situation as he sees it. Only the primary needs of the carriers will be met, and government officials are looking to railroad resourcefulness to bridge the gaping chasm between need and supply.

●

SUPPLY VOLUME RATIO DOWN: The railroads received and applied more materials in the first five months of 1942 than they did in similar months of 1941 and 1940 *but* deliveries failed to rise from month to month this year as they did last. Moreover, supplies in relation to the volume of traffic and rate of consumption are falling.

●

THE SUPPLY ORGANIZATION: What are the organizations which have to mesh their operations mutually in order to get the "brasses" to the rip-track and the spikes to the section gangs, where and when they are needed? An article herein outlines the inter-relations of the railroads, the manufacturers, the ODT and the WPB and the rules and policies under which each group co-operates with the others.

●

POTATOES VS. TALL HATS: The ready mind of the head of the New Haven's purchasing department, in his article herein, finds an apt analogy for the railroads' supply situation in Mr. Dooley's *wanting* a tall hat but *needing* some potatoes. He got the potatoes, but went on wanting the high hat. Mr. Smith finds objects for pointed criticism in practices of both railroads and government agencies, and he performs his task with characteristic *elan* and good humor. Paradoxically enough (until you read why) here is a buyer who complains that the prices of some of the things he purchases are too low.

●

JUNKING PROFITLESS LINES: The railroad unions are perturbed by the abandonments of meagerly patronized branch lines—and especially by the WPB's going in and seizing the rail before the ponderous I.C.C. machinery has got around to acting in the light of war realities, and formally approving dismantling these obsolescent deterrents to carrier vitality. Julius Luhrsen contends that the "railroads expect to accomplish abandonments they have sought for many years by taking advantage of the war situation."

●

WAR & TRANSPORT POLICY: For years "progressive" orators and writers have demanded that railroad plant and investment be shrunk to conform with the supposed realinement of transportation (i. e., diversion of much traffic to trucks, barges and airlines). If railroad managers had harkened to this clamor, where would the country now be in its war effort—with these alleged supplanters of the railroads folding up all over the country? An editorial herein contends that the *national* interest requires a policy toward transportation which will give sustenance to the railroads in peace time, to enable them to be on the job in war time. Events of the past year have introduced new, and indeed revolutionary, evidence of the vital *national* concern in the maintenance of a large and efficient railroad plant—evidence which is not to be found in the record up to Pearl Harbor.

●

THE AAR SOLUTION: The government will pursue its policy of recent years, of favoring adjunct and supplementary transportation at the expense of the railroads, after this war, only at the peril of not having indispensable railroad service the next time it is faced with a military emergency. The AAR is awake to the railroads' responsibility in arousing government officials and the public to a realization of this crucial situation, as is evidenced by the memorandum it has filed with the Transport Study Board (see news pages herein), urging that inclusive "transportation companies" and not separate entities for air, water, highway and rail movement be embraced in the national policy toward transportation. Who has ears, let him hear—for herein lies the very core and substance of this country's transportation problem. The nation cannot protect itself without adequate and efficient railroads—and railroads cannot indefinitely continue if they are treated merely as "stand-by" plant, as they were so largely in the Thirties.

POLITICS ADJOURNED?: Mayor La Guardia of New York is urging that the Beaver-Mahoning canal in Ohio be constructed (at a cost, without barges, equal to that of 70,000 tank cars), for the alleged purpose of relieving, several years hence, the gasoline shortage on the Eastern seaboard. Genial Jim Farley, opposing the New Deal's governorship candidate in New York (Senator Mead), alleges that the latter is not a true supporter of President Roosevelt in that the Senator has been opposing the St. Lawrence seaway. Political leaders advise ordinary people, meantime, to concentrate on the war—and to subordinate their individual interests to the national need.

●

MODERN YARD A WAR AID: It is fortunate for the Norfolk & Western's important contribution to the war effort that it has available the new yard facilities at Portsmouth, Ohio, described herein. The lay-out includes a gravity classification yard to expedite westbound merchandise and time freight, and an extension to the tracks in the eastbound empty (i. e., coal car) yard—to accommodate full trains without doubling-over.

●

CABOOSE-LCL COMBINE: A car which is a caboose plus an l.c.l. peddler car—and also provides space for a few passengers—is a Missouri Pacific contribution to equipment tailor-made to fit a mixed-train job. The M. P. has nine of these cars, each containing a "Portakold" refrigerator to accommodate perishables—enabling the company to give a superior service to small communities. The car has its advantages, also, in enabling the road to comply with ODT Order No. 1.

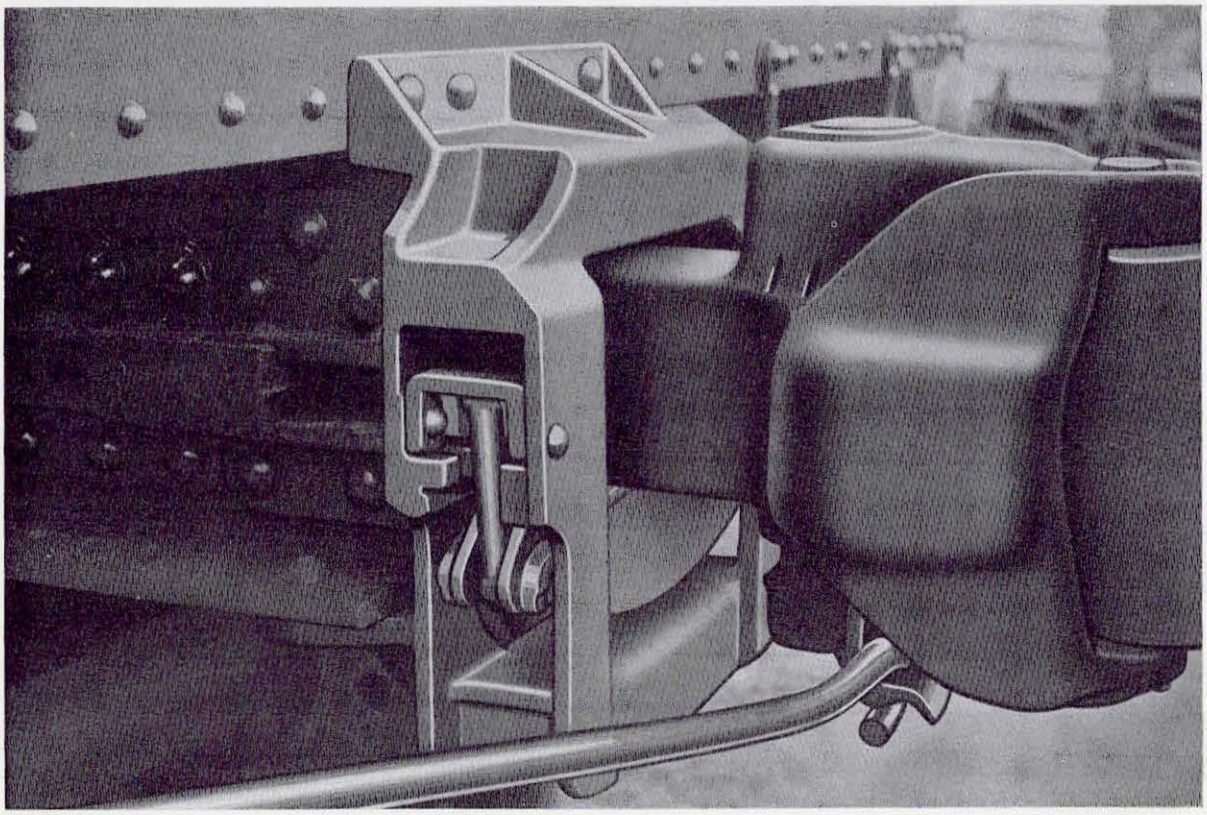
●

MORE "MAKE WORK": The non-operating unions are trying to convert their vacations-with-pay agreement into a "make-work" scheme, to require the hiring of supernumerary employees. Such is the contention of the railroads to the referee who is to settle this dispute, as reported elsewhere in these pages. The purpose of the agreement, the railroads maintain, is to give their employees a holiday—not put further restrictions on the carriers and require them to hire help they would not need if vacations were timed to fit the peaks and valleys in the work to be done.

●

NO PORT TIE-UP: More export freight is flowing through American ports than at the time of World War I, and there is no congestion. Such was the revelation of A. A. R. Port Traffic Manager Randall this week in a radio address. The speaker contrasted this condition with the last war, when as many as 200,000 cars were held up under load—at ports, or trying to get to them. The extremely smooth operations of the present time are attributable to better organization and co-operation among railroads, steamship people, government officials and port authorities—and especially the systematization of Army shipment practices.

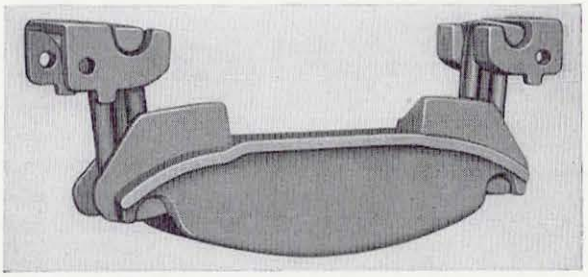
UNION SWING CARRY IRON CENTERING DEVICE



PREVENTS WEAR ON COUPLER SHANKS

REDUCES NUMBER OF BROKEN COUPLER PARTS

SEPARATE TRUNNION POCKETS ELIMINATE WEAR FROM STRIKERS



CARRY IRON ASSEMBLY

STANDARD RAILWAY EQUIPMENT MFG. COMPANY

HAMMOND, INDIANA

WORKS: HAMMOND, INDIANA NEW KENSINGTON, PA.

CHICAGO OFFICE — 310 S. MICHIGAN AVE.

RAILWAY AGE

Supplying the Railways

Every problem of the railways, especially the procurement of equipment and supplies, is widely different from what it was in the last war.

They entered the last war with inadequate capacity, although they had 14,000 more locomotives and 500,000 more freight cars than a decade before, and during that decade had increased the freight traffic handled 70 per cent and passenger traffic 40 per cent. There were available enough materials to increase their supply of locomotives by 2,550 in 1917 and 1918, of freight cars by 72,500, of passenger cars by 1,418 and of other facilities in proportion; and yet the increase in freight traffic handled in 1918 compared with 1916 was only 12 per cent, and in passenger traffic only 23 per cent.

In sharp contrast is the fact that, when preparations for this war began in June, 1940, there were available 13,000 fewer locomotives, 600,000 fewer freight cars and 12,000 fewer passenger cars than ten years before. And yet the railroads had a large surplus capacity, partly because of improvements in all facilities and operating methods, and partly because their traffic was less than a decade before. But the surplus capacity of 1940 has rapidly disappeared under the impact of a two-years' increase in traffic which in May, 1942, had become 70 per cent in ton-miles and more than 100 per cent in passenger-miles—larger than the *ten years'* increase in 1906 to 1916. Nevertheless, so stringent have been government restrictions on materials for railway purposes that the total tractive effort of available locomotives actually has declined during the last two years; railroad-owned freight cars have increased only 87,000, or but 20 per cent more to handle a 70 per cent increase in traffic than in 1917-1918 to handle a 12 per cent increase; and there has been virtually no increase in passenger cars.

Efficiency FOR VICTORY

Of course, this war is widely different from the last one. Annual federal expenditures then increased only $18 billion. For war purposes alone they are now running at an annual rate of $55 billion, and are expected in the fiscal year ended June 30, 1943, to be $70 billion. Consequently, the demand for materials for war purposes is vastly greater. But their use by the railways is hourly becoming more largely for *war purposes*. One-half of railway service is now being devoted to war purposes; and this will increase to two-thirds or three-fourths. What will happen both to the two-thirds or three-fourths of it devoted to war, and to the one-third or one-fourth of it left for civilian purposes, if materials for railway use continue to be restricted until the total railway service that can be rendered begins—a very real danger now—to decline?

Railway officers, especially purchases and stores officers, and also manufacturers of equipment and supplies, are confronted, as contents of this issue of *Railway Age* show, with a constantly more difficult problem of getting enough materials ordinarily used and substitutes for them. By unprecedented initiative and resourcefulness, they have thus far solved the problem. They cannot hope to keep it solved without more co-operation from the War Production Board.

It is well enough to praise railway officers and employees, and base on their past achievements expressions of optimism; but the time has come when, if service is to be maintained, much greater quantities of materials must be made available.

War Lessons in Transportation Policy

Nobody can know, of course, what the findings of the Transportation Investigation and Research Board will be on the "comparative economy and efficiency" of the various agencies of transportation; nor whether Congress and the administration will give effect to its conclusions.

If, however, the Board takes recent developments into account, it will have to accord to the railroads a far greater degree of essentiality to the national interest than could have been demonstrated by pre-war conditions.

National income in 1940, adjusted to the cost of living, was 6 per cent higher than in 1929. Railroad freight service in 1940 (revenue ton-miles) was 17 per cent *less* than in 1929, and railway passenger service (passengers carried one mile) was 22 per cent less; while transportation by trucks, buses, barges and air lines was vastly greater. As far as quantitative evidence went, the relative importance of the railroads—while still great and preponderant—seemed, superficially, in 1940 to have diminished, while that of their rivals had, by the same evidence, grown greater. The nation *appeared* to be somewhat less dependent on railroad service than previously.

Recent events demonstrate how incorrect would have been conclusions drawn from the evidence of 1940. Railroad facilities, including most of those unused in 1940 and for some years previously, are being worked now more intensively than ever before. If all the facilities unused in 1940 had been junked, and securities representing them wiped out—which was the "solution" for which "progressive" publicists persistently clamored—what would the status of our war program now be?

Coastwise and intercoastal vessels have disappeared from the scene; the work they did has fallen on the railroads. The air lines have become largely an adjunct of the army; most of their passengers have been turned over to the railroads. Trucks, buses and private automobiles still carry a large traffic; but the railroads must be ready to receive their traffic, too, as their rubber wears out.

The nation sorely needs all the usable facilities which the railroads can press into service. The railroads, it has turned out, were not "overexpanded"—as "progressives," including even railway labor leaders, kept insisting—but quite the contrary. None of the *other* agencies of transportation (for long hauls) has proved "indispensable"—because, in fact, the service of many of them has been dispensed with, and essential transportation service has as yet suffered little thereby, if at all.

Realistic national transportation policy must recognize the national necessity of maintaining for periods of national emergency a large and efficient railway plant—even if in other periods a large part of it is to be considered merely "stand-by" plant. It must also recognize that such a plant cannot be assured in periods of emergency unless in all periods there is available enough income to provide and maintain it—including the "stand-by" part, if such a part there must be. The only economically sound way to assure the railways the required income is to adopt a national transportation policy under which they can get all the traffic and make all the earnings to which their inherent economy of operation and the character of their service entitle them. This necessarily would involve abolition of all the favoritism heretofore shown for barges, trucks, buses, air lines and other competitors.

Are we learning enough from what is occurring in transportation in this national emergency to cause adoption of a transportation policy by government that will accord with what the emergency has demonstrated is required by the national interest?

Rehabilitation Augments Supply of Machine Tools

Ever since this country inaugurated its lend-lease program of production the railroads, in common with industry in general, have had great difficulty in securing certain types of machine tools which are in great demand by the war production industries. Something drastic had to be done in some places, at least, to make possible the increase in production necessitated by the speeding up of repairs to cars and locomotives.

One railroad, the New York Central, tackled the problem in an unusual and most effective way. It decided to make special provision for the thorough repair and rehabilitation of its present equipment of machine tools. A shop, 50 ft. by 300 ft., was set aside at Collinwood, Ohio, to do all of this work for the entire system. The machines are thoroughly cleaned with steam before dismantling is started. They are completely stripped and the beds or main frames are checked for wear. The necessary planing and scraping is done to insure a true base from the start. New parts are ordered where necessary. New gears can be secured from a local plant.

In some instances it is possible in rebuilding tools to make improvements in the original design, such, for instance, as substituting an individual motor drive for pulleys and belts.

In the first 15 months of operation repairs were completed to 30 machines, ranging from small drill presses to a planer with a 31-ft. bed. Obviously this procedure is not as satisfactory as buying the latest designs equipped with up-to-date accessories. It does, however, restore the machines to good workable condition at reasonable expense, and it also relieves pressure upon the machine tool builders at a time when the emergency demands for equipment are so far beyond their resources.

National Leaders Examine the Problem of Keeping Railroads Adequately Supplied

With the widespread dislocation of sources of supply, the problem of procuring materials required by the railroads for the maintenance and development of their facilities to handle the greatly increased traffic has become of paramount importance—both to the railroads and the nation.

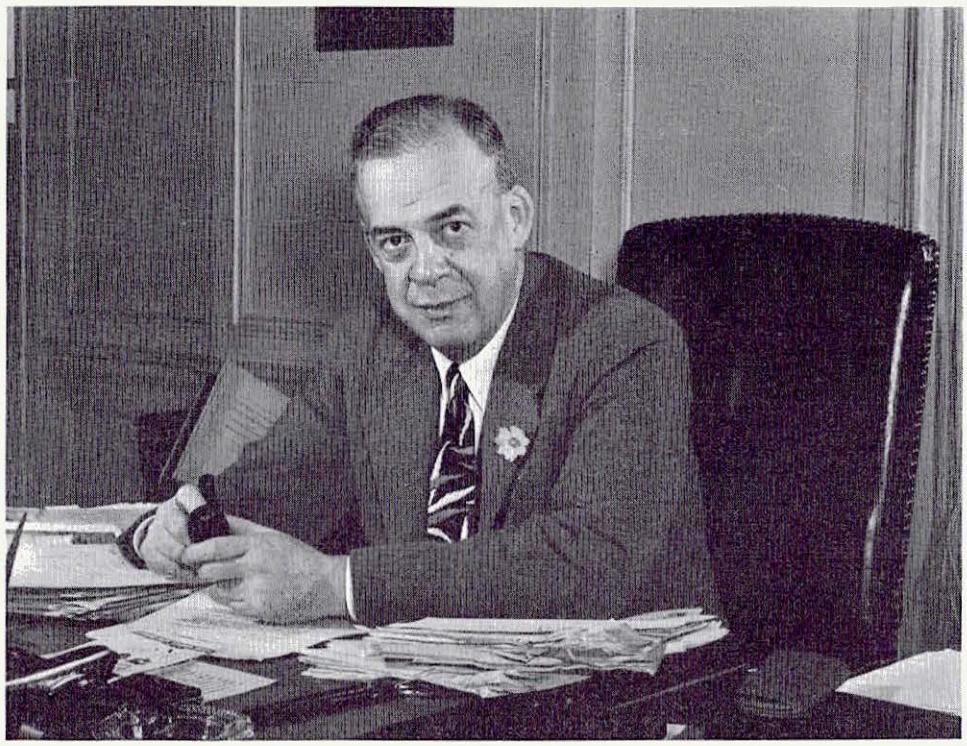
It is considered so important by the railroads, and so many difficulties are being experienced by the supply forces in immediate charge of railway purchasing and stores, that plans to hold a general meeting of the Purchases & Stores division, AAR, were abandoned.

To direct attention to these difficulties and to aid in their solution at a time when it is more important than ever to promote the widest understanding of the situation confronting the carriers, the *Railway Age* has enlisted the co-operation of leading spokesmen from the war agencies, the railroads and railway manufacturers in reviewing developments from their points of view at the same time that the Purchases & Stores division, AAR, releases the reports of its activities and the work of its standing committees.

The result of this editorial undertaking appears in the following pages, comprising what may be regarded as a "convention in print." At the outset are presented statements from Joseph B. Eastman, director of the Office of Defense Transportation; Andrew Stevenson, chief of the Transportation Branch of the War Production Board; C. H. Buford, vice-president, Operations and Maintenance department, Association of American Railroads; C. E. Smith, vice-president, purchases and stores, New York, New Haven & Hartford; Harry Wheeler, president, Railway Business Association; and a digest of the present organizations engaged in railway supply work.

The searching and authoritative expressions of governmental and industrial leaders are followed by this paper's most recent analysis of the trends of railway purchases and inventories, and, lastly, by the highlights of the reports just released by the Purchases & Stores division.

The Railway Materials Situation and the National Interest



By Joseph B. Eastman

Director, Office of Defense Transportation

THE British Ministry of Economic Warfare reports that in Germany locomotives receive as high priority as armaments. No better proof could be given, if proof were necessary, of the importance of transportation in modern warfare. Putting it in large words, it is an ubiquitous and indispensable ingredient.

Transportation, like armaments, is a large consumer of critical war materials, for both maintenance and expansion. Fortunately, no one disputes the fact that the railroads must be given the materials necessary to keep their equipment and structures in good running order. Nothing would imperil the railroads and their service, under present conditions, more gravely than any considerable deficiency in the supply of such materials. This is because the railroad plant is being worked at top speed under heavy pressure. It will crack up quickly and badly once its condition is allowed to run down.

Two Dangers Ahead

As I have said, every one concedes and recognizes these facts. There appear to be only two dangers. One is the possibility that the amount of materials necessary for maintenance may be underestimated. The other is that even though an adequate amount of materials is allocated by the War Production Board, defects in the practical working of the priorities system may to some substantial extent prevent the materials from reaching the railroads in time. The Office of Defense Transportation is endeavoring to keep an eye on both of these dangers. Of the two, I think the second is the greater danger, for in war conditions change rapidly and emergency needs for materials, not theretofore foreseen, are bound to arise to disrupt projected programs.

Maintenance engineers and the purchasing and stores officers of the railroads must bring ingenuity, resourcefulness, and co-operation into play to much the same extent, although under less perilous conditions, as the corresponding officers who serve the army in action. They know better what can be done than I do, but it is clear that materials must be stretched further and made to do more work than ever before. There is much reclamation of materials which may be uneconomical in normal conditions, but yet is possible and can prove of much help when new materials run short. In the same way, there are non-critical materials which no one would choose to use, if given a choice, but which yet will serve the purpose, if better critical materials cannot be had. Again, one railroad may be short of some vital repair parts or materials, but another may be long.

In such an event, the latter must, in time of war, be prepared to come to the aid of the former.

It is also a situation where eternal vigilance is necessary and where the old proverb about a stitch in time is exceedingly apt. A little repair work at the right time may save a great amount later on. One of the critical periods for the railroads will come next winter. Railroading is always harder when the mercury drops to low points, especially if this brings snow and ice with it. Some of us can remember the winter of 1918 in the eastern part of this country. It was terribly hard on railroads and on the whole war effort. I hope we shall be spared such trouble this coming winter, but it is a possibility and an added reason for keeping the maintenance situation in hand. Maintenance must not be allowed to fall into arrears, and no one has a heavier and graver responsibility than the men who are in charge of this work.

When it comes to the materials for expansion—for the building of new cars and locomotives and even of new structures in some instances, there seems to be more room for debate. At any rate there is more debate. As we all know, railroad traffic has increased steadily and rapidly ever since 1938, and for some time the ton-miles carried have been increasing at a much faster rate than the car loadings, because of the diversion to the railroads from the water of much long-haul traffic and also because the cars are being loaded more heavily. The forecasters all say that we have not come to the end of this traffic growth and that it will continue throughout this year and in 1943. There is a little surplus of equipment now, chiefly of box cars because of the heavier loading of l. c. l. freight and because the glut in the elevators and other storage places has prevented any normal movement of grain; but there is little leeway and on the face of things the need for more equipment in the near future seems obvious.

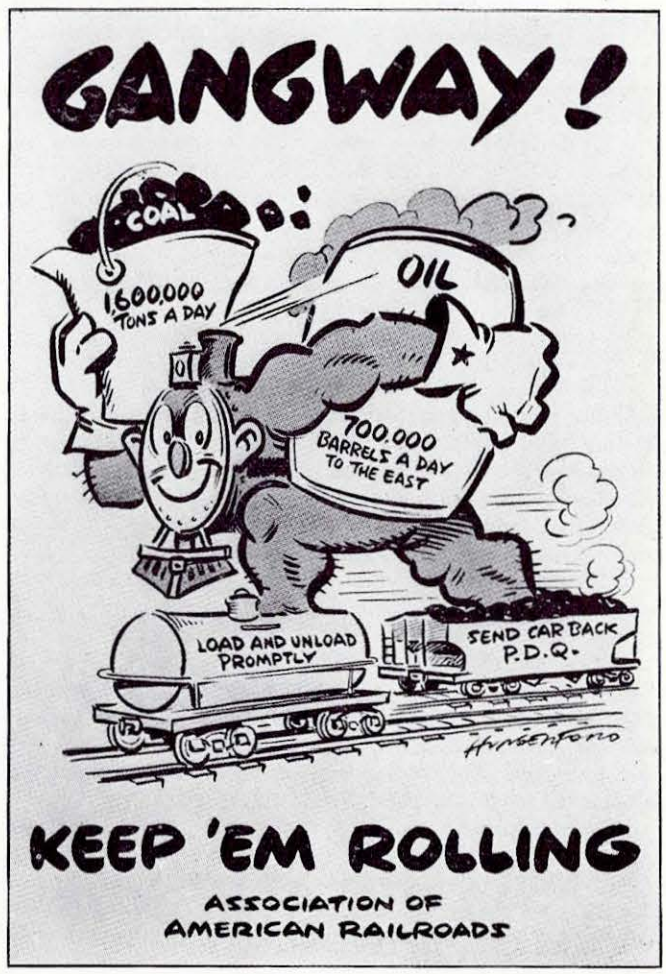
More Equipment Needed

There are those, however, who believe that we can do more with the equipment and facilities that we have, so that there may be no need for adding any more. I agree with the premise but not with the conclusion. The railroads, with the help of the shippers of the country, have done splendid work in keeping the freight cars in rapid circulation, in loading them more nearly to capacity, and in expediting their movement in other ways. Yet I am confident that not all the opportunities for better performance have been exhausted. There is still room for better loading of the cars, for better routing, for better make-up and operation of trains, and for greater utilization of the motive power in the aggregate. Not all has been done that can be done to spread traffic over the year and thus avoid or reduce the peak in the fall months. Much can be done to reduce unnecessary cross-hauling of commodities without real harm to our industries.

But notwithstanding these opportunities and possibilities, I remain of the opinion that provision should be made for new equipment. The need is greatest in the case of locomotives, with tank and open-top cars coming next and box cars last. In addition to the fact that growth of traffic is forecast until the war production program reaches its height, vessels are still being taken for war use from the coastwise and Great Lakes service, which always throws a heavy load on the railroads. And much more important is the fact that there is no assurance as to how long and to what extent the highway trucks can be kept in operation. We know that they are a diminishing quantity, because no new trucks are being built, and the rate of diminution may before long become rapid, unless an adequate supply of repair parts and heavy-duty tires can be provided. We also know that the trucks are now giving the railroads very effective and important aid in carrying the traffic of the country. We must further bear in mind that many of the railroad cars and locomotives are old and cannot be kept in service indefinitely. With the best of care, the need for replacements cannot be wholly avoided, particularly at a time when operations are being carried on at top speed and under heavy pressure.

It is my conviction, therefore, that for the successful prosecution of the war, in which transportation plays so great a part, it is essential, first, that the railroads be provided with an adequate supply of the materials necessary to keep present equipment and facilities in good running order, continually and without interruption, and second, that they be provided, not with an abundance, but with a moderate and modest supply of new locomotives and cars. True, the steel which will go into the railroad industry under such a program cannot then be used for armaments, but it is essential, not only to the production but to the use of the armaments, that there be no break-down or let-up in the constant and efficient functioning of transportation.

Nor will such a program render unnecessary in any degree unremitting attention to the maximum utilization of the transportation facilities that we have. The thing which gives me the greatest satisfaction is that I am confident that the railroad industry has full realization of this need and is bound that it will at all costs do its part in winning the war. The spirit and morale of the industry have never been better.



Scarcity of Materials Will Grow

Andrew L. Stevenson

Only prime needs will be met—Situation will challenge resourcefulness of the railroads

By Andrew L. Stevenson

Chief, Transportation Branch, WPB

AMERICAN railroads today are faced with their most challenging test. On the one hand, the volume of traffic—both passenger and freight—has reached record-breaking proportions. That increased load is a result of a combination of factors, including military operations, greatly increased output of war goods, diversion of sea-borne traffic to the railroads, and, to a limited extent, diversion of truck cargoes because of rubber and gas shortages. On the other hand, materials and equipment, which ordinarily would be required in large quantities to cope with this increased traffic, are no longer available except for the most essential maintenance and replacement purposes. This will be an increasingly serious problem so long as the war continues and the production program has first priority on our resources.

Fullest Co-operation Required

These two abnormal situations are not irreconcilable. It may take ingenuity and an extra dose of American "know-how," but the railroads are not going to fail in the absolutely essential function of keeping the supply lines open. How they will do it in the face of these problems may, at first glance, appear insurmountable. It is a challenge that calls for the fullest co-operation between those of us in Washington concerned with transportation and the officers and personnel of the railroads themselves.

We will do our utmost to see that the most essential requirements of the railroads are met. But we expect that the effort will be a joint one, calling for all of the efficiency and resourcefulness of those who actually—in a literal sense—are standing at the throttle.

In the early days of the defense program, an A-3 rating covering the construction and repair of freight cars and locomotives was, in fact, a blank check to the railroads to obtain all of the materials they needed—so long as the materials could be procured with this relatively high priority.

But as the months wore on, higher ratings, covering the production of goods connected directly with the defense effort—such as tanks, planes, and guns—took precedence over the A-3 rating for railroad supplies. It soon became clear that there was a considerable difference between granting permission to buy raw materials, and the actual procurement of those raw materials with an A-3 rating. A policy of allotment of raw materials to the industry was decided upon to assure fulfillment of the most essential requirements.

Picture Bleak

This allotment program, which represents an equitable distribution of the materials available for the industry, has made it possible to continue efficient operations with a minimum of dislocation and confusion. But whatever the obstacles to continued efficient operation have been in the past, the picture is bleak for the future. Our war program calls for more, not less, tanks, planes, ships and guns. We have reached that critical point in the program where materials rather than production capacity and manpower to manufacture the goods are the crucial factor. We are now concerned primarily with directing the flow of materials—some of which are far below our requirements—into those channels where they will most quickly be made useful for the military effort.

If this means that allocations of raw materials will have to be cut, then the cut will be made. We have already sliced off some of the fat from our civilian economy, but I can foresee not many months hence that ours will be a lean economy indeed, with only the most essential requirements for maintenance of the general health and welfare provided. To the railroads, this problem will become as serious as it will be to all other industries.

No one can gainsay the fact that the railroads are our life lines; if they are forced to curtail operations, if maintenance of equipment is not kept up, if the absolutely essential replacements are not available, then we might as well stop talking about pushing up production in the war plants. But the railroads have successfully met all demands imposed on them up to now as a result of the war program, and I am supremely confident that the job will continue to be done, no matter what further restrictions are necessary.

The prime demands of the industry will be met.

Nothing that might interfere with our production program or slow up our transportation lines will be allowed to develop, if it is within our power to prevent it from developing. But every pound of material that is allotted must be used only for the most essential maintenance and replacement. The guiding principle at all times must be the delivery of war goods and efficient operation of the transportation lines.

In all of our activities, we are guided by these three considerations:

(1) Is the allotment of material for railroad maintenance and for new equipment essential to the war effort?

(2) Will the allotment of this material interfere with the production of military goods?

(3) Will the use of facilities in the construction of new equipment interfere with the production of military goods?

Those are primary considerations. If the answer to all three questions is in the affirmative, then it is perfectly clear that the most expedient solution is allotting only those materials which will actually speed up the war effort—do in effect the same kind of job that those materials would do if they were put into a tank for the battlefield.

It is here that resourcefulness and imagination in utilization of what we have will decide the issue. Traditional American ingenuity will be our trump card.

I do not want to set down any hard and fast program. A flexible, adaptable approach to the problem on the part of each road is what is needed. Operations should be under constant study and analysis towards attainment of greater efficiency in loadings and shipments. Equipment specifications should be reviewed regularly with the end in mind of simplifying construction and design, and substituting the less-essential materials for those in the critical category. Serviceable facilities, even though they ordinarily would be scheduled for replacement, should be made to serve a little longer until the war is won. And most important, no requests for additional allotments of materials should be submitted until the evidence is conclusive that the only alternative is a delay in our production program.

I am confident that the railroads will maintain the service record they have already established in this war. I have no doubt that they will continue to do the work of several divisions in keeping the arms and guns moving. No obstacle will be too great and no problem too difficult to be impossible of solution by the application of imagination and common sense. The nation looks to the railroads to set the pace for victory; sacrifice and hard work and resourcefulness will be the watchwords of that victorious march to a better world.

Needs: New Supplies plus Thrift

By C. H. Buford

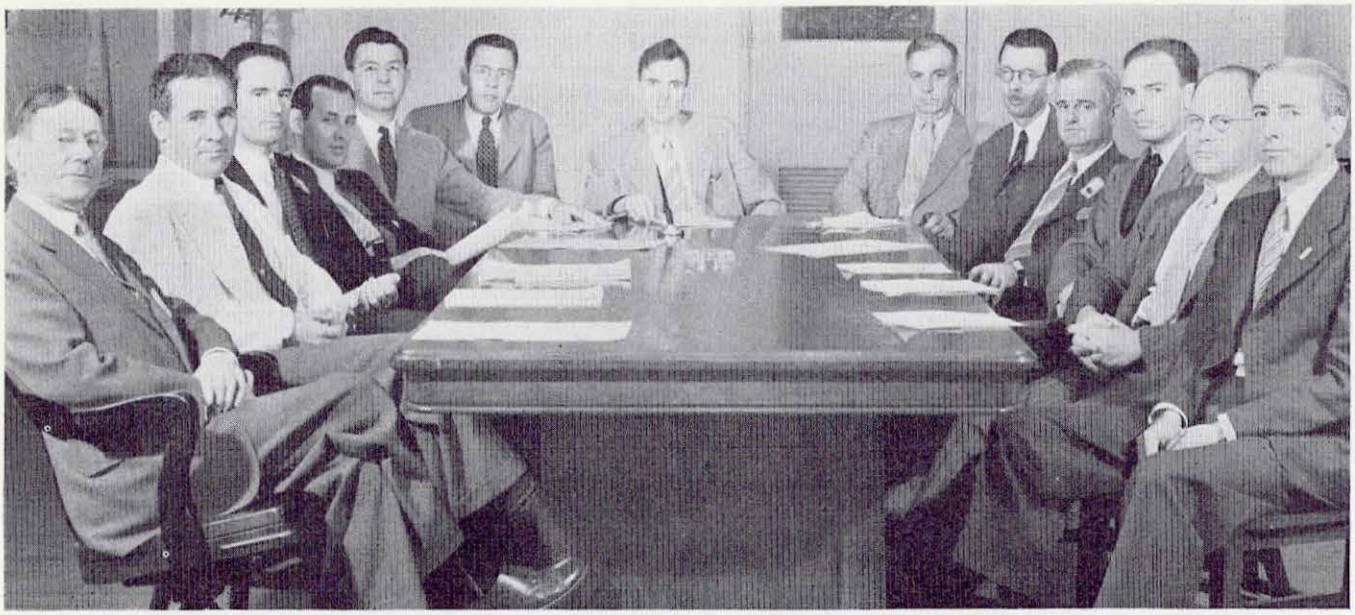
Vice-President, Association of American Railroads

C. H. Buford

IN this war, railroads have the indispensable job of producing the mass transportation without which mass production would be impossible and without which our whole world-wide military effort would collapse. To produce that mass transportation, railroads need materials. It is the job of the members of the Purchases and Stores division of the Association of American Railroads to get those materials—a job complicated, in these days, by the pressure of other essential war needs for the same materials. That means that the purchases and stores forces of the railroads have another job—to make the materials they have go as far as possible. That is true in peacetime as well as in war, but war gives new urgency to conservation efforts.

The extent to which the purchases and stores officers of the railroads, and indeed the whole railroad personnel, recognize these obvious facts is shown by the progress made in saving critical materials. This progress takes various forms—substitution of the less critical for the more critical, changes in design to reduce or eliminate the need for critical materials, care to get the full use out of the materials that have to be used, reclamation and restoration to use of worn materials, and finally, salvaging of scrap material which is no longer of use in railroad operation.

Railroads are great users of materials, but they are also great salvagers of scrap. They are, indeed, the nation's prime source of scrap metal, putting into the channels of commerce approximately one-sixth of all the scrap metal used in this country in normal times. But these are not normal times, and the obligation upon the railroads is correspondingly greater. Not only is the obligation greater, but so is the opportunity. As the railroads conserve, salvage and return critical material to use, they will help themselves to get the materials they must have to continue to provide the mass transportation upon which everything else depends.



Staff Workers—Transportation Branch, War Production Board

Left to Right—David P. Beach, Assistant Chief, Maintenance and Supply Section; F. B. Robins, Chief, Maintenance and Supply Section; John O'Farrell, Assistant Chief, Maintenance and Supply Section; E. C. Hanly, Principal Technical Assistant, Motive Power Section; C. H. Creasser, Acting Chief, Motive Power Section; C. H. Helsper, Program Requirements Specialist; G. M. Cornell, Assistant Chief, Transportation Equipment Branch; Harry Warren, Assistant to the Chief, Transportation Equipment Branch; R. W. Caswell, Assistant Chief, Bus and Electric Railway Section; E. S. Pardoe, Chief, Bus and Electric Railway Section; S. F. Udstad, Assistant Chief, Rolling Stock Section; D. W. Odiorne, Chief, Rolling Stock Section, and J. C. Angsten, Assistant Chief, Rolling Stock Section.

Supply People and the Problems They Face in War-Time

Review of the organizations responsible for materials supply and the task which calls forth their supreme professional skill

As the United States becomes more deeply involved in the war, the men and organizations which compose the service of supply of the railroads face an engrossing but a disturbing prospect. On the one hand, it is increasingly difficult to get some of the materials and impossible to get others, although the roads are carrying wartime traffic and must be kept in repair. On the other hand, the roads are furnishing increasing quantities of rail and scrap and other materials for military projects and war industries, and also are giving more of their machinery and shops over to the production of munitions.

The supply problem, moreover, is confused and complicated by innumerable inconsistencies and incongruities which the emergency and constantly changing methods of administering it by remote control have created. Men who have specialized for years in the highly ramified and severely practical job of keeping railroads supplied with materials are constantly compelled to travel long distances and confer with strangers to the business to get materials. Traditionally dependable sources of essential supplies have been disrupted by the intricate regulations. Equipment programs have been immobilized by orders prohibiting the use of materials on hand and round-about and involved procedures are required to move material and to expedite deliveries. Even railroads which penetrate the forest areas are finding it impossible to buy lumber.

The purchasing and store departments of each railroad still largely carry on the purchasing and replenishment work according to patterns that proved sound previous to the emergency—local storekeepers reporting local needs to division storekeepers, division storekeepers reporting needs to district or general storekeepers and purchasing offices preparing the customary requisitions on responsible suppliers.

The quantity and quality of material which a manufacturer may ship and a railroad may receive, carry in stock or sell at any time, however, and in some cases, the persons who may receive the material are more closely controlled by the War Production Board; while the prices which may be charged or paid, and other conditions of sale are controlled by the Office of Price Administration, and the orders of these agencies on buyer and seller alike are law.

The Office of Defense Transportation dominates the automotive equipment and rubber tire situation, and makes recommendations to the War Production Board as to the requirements of the railroads for material and equipment, but without reducing the power of WPB and OPA over material production and prices.

The Association of American Railroads and the Pur-

chases and Stores division of the AAR are also factors in the production and distribution of railway materials, but in a less direct and positive way than WPB—the Association deriving its authority from the railroads which are members of it and thus confining its activities to the formulation of policies for the information of or adoption by the railroads and to the discussion and promotion of practices for the common good.

The War Production Board

Under the present organization, WPB has a material division which supervises the apportionment of the production of raw materials for essential uses, with branches over mining, stock piling, aluminum and magnesium, chemicals, iron and steel, power, nickel, tugsten and molybdenum, copper, zinc, manganese and chromate, tin and lead, mica and graphite and miscellaneous minerals, and these branches are further subdivided. One subdivision of the iron and steel branch handles plates and shapes; another bars; another scrap; etc. While these branches, being chiefly managers of production, have little direct contact with railroads as consumers, they determine whether prevailing rates of production will permit a larger or smaller division of critical materials for the production of railway materials at any time, and they deal directly with the railroads in their role as producers of castings and other raw materials, including scrap.

WPB also has a production division which confers with the railroads, with or without the collaboration of other branches, in promoting the use of new and existing facilities to produce war material. A civilian supply division studies the over-all requirements of the railroads for materials and equipment, with the assistance of the transportation equipment branch and the ODT, and presents the needs of the railroads to the requirements committee of WPB which establishes the policies governing the over-all apportionment of scarce materials between civil and military needs. All orders and other revisions and interpretations of orders controlling the production, distribution and use of materials and all priority certificates and allocations to individual companies are issued by the department of operations which co-ordinates the material divisions and bureaus dealing with priorities, conservation, industry advisory committees and industry branches.

The Transportation Branch

The transportation equipment branch is the industry branch of WPB which carries out the policies and programs of WPB with respect to railroads, car lines and the railway supply industry in their role as builders of equipment for themselves or other agencies and as consumers of scarce materials, and is the principal contact between the railroads and WPB. This branch, of which Andrew L. Stevenson is chief, and G. M. Cornell (C. & O.) is assistant chief, has a transportation advisory committee, consisting of chief executives of railroads and railway supply companies selected by WPB, and is divided into four operating units.

A maintenance and equipment section in charge of F. C. Robbins, (C. & O.) chief, John O'Farrell (C. & O.), and B. P. Beach (Penna.) assistant chiefs, and specialists, O. F. Dalstrom (C. & N. W.), H. F. Cusek (Union Switch and Signal Company) and W. M. Vogts (Penna.) handles all applications from railroads for materials for maintenance of way and structures, and all applications for plant expansions and special projects. This section also has a rail unit under B. P. Beach assisted by G. E. Graham (C. B. & Q.) and Ed Wise, Jr. (L. & N.) which receives all applications from railroads and others for new and relay rail and all rail reports and issues all releases on new and relay rail.

The transportation equipment branch also has a motive power section in charge of C. H. Creasser (N. Y. C.), acting chief, assisted by Charles Whitehead (General Steel Castings, (E. J. Harly and E. E. Rennick (Baldwin Locomotive Company) and E. C. Hanly, (Penna.) which now directs all new locomotive construction and handles applications for material for locomotive repairs.

A rolling stock section in charge of P. W. Odiorne (N. Y. C.) chief, and J. C. Angsten (Pullman Standard) assistant chief, with S. F. Udstad (General American Transportation), C. J. Parks (General American) and S. O. Taylor (M. P.) devotes its attention to car building programs and to the disposition of materials for new car construction.

A fourth section, in charge of E. S. Pardoe, deals with applications and reports covering materials and equipment for electric traction and bus companies.

The bureau of industrial conservation, which concentrates on the collection of waste materials and the promotion of waste elimination in industry by reducing varieties of materials, standardizing specifications and promoting the use of substitute materials, now has a railroad section in charge of B. C. Bertram (L. V.), charged with the task of increasing the production of scrap from railroads and the special job of expediting the production and release by the railroads of used rail for the Army, Navy, Maritime Commission and for defense plants and industries.

In ODT, the material requirements of the railroads receive the attention of Joseph B. Eastman, director, Gen. C. D. Young (Penna.) and U. S. Army, retired, assistant director, and W. W. Kelly (A. T. & S. F.), director of the material section.

The AAR Purchases and Stores division, with a special committee of purchasing agents, acts both in an advisory capacity to the Association and its membership, and in formulating policies and practices relating to the supply problems of the member railroads; while W. J. Farrell, executive vice-chairman of the Purchases and Stores division, together with A. L. Sorensen (Erie) and A. A. Hollar, (Penna.) assistants to the vice-president, AAR—working under the direction of C. H. Buford, vice-president—all with offices in Washington, supervise the preparation of statistics and other information required by the AAR and ODT on the material needs of the railroads, and assist the purchasing departments of individual railroads in expediting the delivery of materials and otherwise consulting with WPB.

Priorities—Allocations

Because of the diversity of materials and equipment which railroads use, the carriers have been interested in a wider selection of the regulations over the production, distribution and use of materials issued by WPB and the price regulations issued by OPA than is appreciated. They, too, buy food, confections, drinks and clothing, and the rationing of gasoline and rubber tires come distinctly within their notice. OPA regulations which interest railroads the most, however, are those prescribing the prices at which relay rail and scrap metals can be sold and the prices over lumber and car and locomotive specialties. In the field of WPB regulations, the railroads, at present, are chiefly concerned with the P-88 order, governing materials for maintenance and repair; the

P-19-a order, governing materials for special projects; the L-97 orders, governing locomotive and car construction; the L-88 order, governing rail; the M-9 orders, governing the use and distribution of copper; the M-21 order, governing steel plate; and the L-121 order, freezing softwood lumber.

New rail, track fastenings and steel plate are under strict allocation, both with respect to the total amount which may be obtained by all the railroads during the year and the amount which may be shipped to each railroad each month and also the amount which each mill may ship to each railroad. To obtain steel plate, a railroad must furnish the iron and steel branch of WPB each month on Form PD-298 a statement of the plate of each size that it will need two months in the future and follow this a week later with Form PD-299 reporting the plate on hand, due, and received during the month and the anticipated requirements during the next month. In practically all cases, plate over 48-in. wide is now taboo for railroads.

All new rail must now be made to use 4-hole joint bars and, since April 22, receivers of new rail must release an equal length of used rail for sale. Moreover, no used or scrap rail may be sold by anyone without special authority, while all railroads and dealers in used rail now prepare monthly statements for the transportation branch, reporting the footage of new rail laid, the footage and weight of old rail laid in company tracks, and in spurs to defense plants, the rail sold and delivered and the rail available for other use, together with a record of the rail shipped. This information is used by the iron and steel branch in locating and distributing scrap rail, and by the transportation branch in locating and directing the disposition of relay rail.

Order L-97, dealing with Locomotives, and L-97-a, dealing with freight cars, issued April 4, placed all new car and locomotive building under the direction of WPB, both as to the quantity and kind of equipment which can be completed by each builder; while order L-97-a-1, issued April 29 and subsequently revised, stopped the delivery of car materials on order and the use of car materials on hand for the construction of any freight cars not specifically authorized under the new orders and provided for their sale for authorized programs. Much of this material is still unused, while numerous shops which had been organized to carry out car building programs, as originally approved by WPB and its predecessor OPM, have abandoned all plans for building equipment and have rearranged their facilities to produce war materials.

More Forms

Order P-88, issued March 16, was intended to facilitate the acquisition of materials for railway maintenance and repair by granting an A-1-a standing to orders for materials essential for emergency repairs if approved by WPB, by granting blanket ratings from A-1-a to A-1-j at the option of WPB to cover requirements of certain scarce materials on a quarterly basis, and, as subsequently revised, an A-1-j blanket rating was allowed on the deliveries of less critical materials for maintenance and operation of essential facilities. The higher ratings, however, are granted only for quantities approved by WPB, following the examination of detailed records. To obtain supplies for stock, replenishments, each railroad now makes an application on Form 351, showing the amount of stock on hand at the beginning of the preceding three months, the amount received and used and the balance on hand, together with the amount and estimated value of the requirements for the next three months. This form must be submitted in triplicate to the Transportation Branch 45 days prior to the period in which the material is required and must be accompanied by Form 352, in triplicate, giving the value of materials on hand, received and used during the previous three-month period, subdivided by AAR recommended material classses.

New ratings recently allowed for military materials have reduced the value to the railroads of the priorities granted under order P-88, and this condition accounts, in part, for reports that much steel has been obtained as the result of directives from WPB rather than through the priority ratings.

Each railroad also furnishes the copper branch monthly reports of scrap sales and copper scrap on hand, and the railroad also submit a report each month, outlining the operations of their brass foundries. Each quarter the railroads must also report their aluminum scrap. Copies of some of the foregoing reports and still other reports of railway requirements are prepared by the railroads for the AAR and ODT.

War agencies now have more complete information of production and distribution and have both simplified and stabilized their procedure. Correspondence has been expedited and less confusion exists between the railroads and the war agencies over the problems and programs of each. The travel to Washington by railway officers is less frequent. These improvements, however, are not basic. Railroads have quantities of some materials in reserve, are stepping up the reclamation to make up deficiencies and are pushing substitutions. The wear and tear on track and equipment is severe, however, and will become more intensified when war material, already manufactured and now waiting for ships, can be moved to ports. Many railroads, moreover, are far from reconciled to the restrictions placed on new equipment programs, especially where the materials were already on the ground. With the growing intensity of the war, therefore, and the increasing importance of the railroads to the war effort, the material situation is sufficiently acute to give a dominant position to the activities of the supply forces of the railroads and the war agencies that deal with it.

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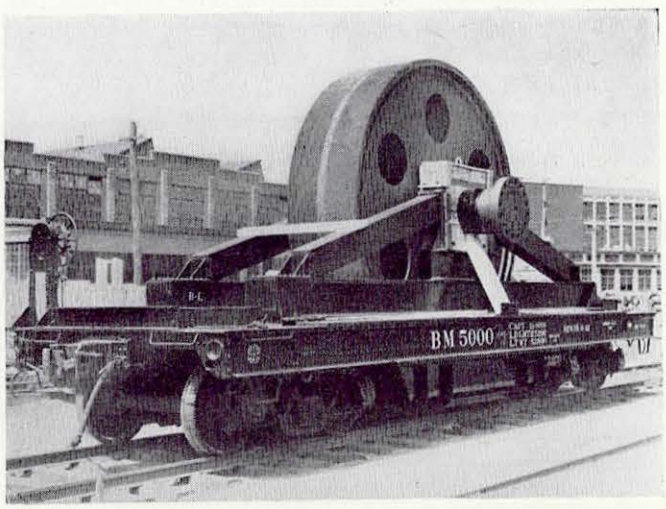


Well Cars for Marine Equipment

Eight special-type well cars were recently made for the General Electric Co. by the Boston & Maine to facilitate the shipment of gears up to 15 ft. in diameter, for marine propulsion sets. A feature is a steel superstructure easily adjustable lengthwise at 2¼-in. intervals to accommodate gears of various dimensions. Superstructure is included in the lightweight of the car, and eliminates about 15,000 lb. of steel required for skids and fastenings in the shipping method previously used. The light weight of the cars is 53,800 lb. and the load limit 115,200 lb.

The Duties and Difficulties of the Railway Materials Buyer

Deliveries need constant follow-up—Ample inventories essential—Tie price limit low

By C. E. Smith
Vice-President, Purchases & Stores, N. Y., N. H. & H.

C. E. Smith

IT would appear axiomatic that the War Production Board recognizes the importance of the railroads in the present emergency, and also that the Board will enable them to have whatever materials are necessary to enable them to perform as they should perform. But there is much room for discussion as to the quantity and kind of such materials.

Finley Peter Dunne touches the nerve of an aching tooth when he related that Mr. Dooley *wanted a Tall Hat* when he *needed Potatoes,* and that he would get *Potatoes* and not the *Tall Hat.* That the railroads have so far been getting the potatoes they need notwithstanding all difficulties is indicated by the fact that while they have used more materials than heretofore in increased operations and increased maintenance, their inventories of materials on hand have increased. Desirable improvements and some maintenance have suffered postponement. If these fall in the Potato class there is every reason to be confident of their accomplishment, although that is becoming more difficult momentarily; if in the Tall Hat class they should be deferred.

Must Use Substitutes

To state our desire for material and to place orders no longer insures delivery. If in the Tall Hat class, our desires should be curbed for the duration by refusal if not by self-denial. But trouble arises when orders for materials for actual vital needs cannot be filled when military needs take precedence, whether or not they are more important than railroad needs. If the railroad needs cannot be deferred, and there is not enough critical materials to meet military needs with enough to spare for railroad use, substitutes must be found. This is a real *must* which confronts railroad men every day.

As military production increases and calls for more and more material to support increased production, the task of the railroads in securing materials for operation and maintenance becomes more difficult and it becomes necessary to do more and more with less and less. Railroad men have passed through so many periods of adversity and hardship that they have developed an ingenuity which enables them to produce transportation under most difficult conditions. This has proven to be a valuable asset in the present emergency and has resulted in a maximum of transportation with the use of a minimum of critical materials; but the denial of some materials when needed will have an adverse effect on military production. It is no secret that the War Production Board has extended preference ratings to railroads only when and to the extent actually needed to secure materials and generally, until quite recently, of lower priorities than extended to many other apparently less important industries.

Before the Transportation Equipment Branch succeeded in securing the approval and issuance of P-88, effective March 17, 1942, utilities could order materials on A-2 and A-5, but had to rely on A-10 (railroads) to bring them the materials unless shipped by truck on A-3 or A-2. Mines could produce from A-1-a to A-10, but had to depend on A-10 (railroads) to bring them their supplies and haul away their output, if shipped by rail. Automobiles and light trucks, although many were in non-essential use, had equal priorities with railroads, the service of which is vital. The petroleum industry could operate and produce on A-1-3 to A-8, but had to depend on A-10 (railroads) for service. Buses and trucks in competing with railroads on parallel lines could secure repair parts produced on A-2 priorities after January 22, 1942, while railroads were extending to their suppliers A-3 to cover the production of parts for freight cars and locomotives, and A-10 for passenger cars, tracks, signals, bridges and operating supplies.

The priority ratings under which we are now operating are probably the best that we can expect under all conditions. They recognize surrounding conditions, but must be improved continually as their value decreases by being topped by new higher ratings granted others. It would be less than fair not to state that they are being

well administered. Properly administered, they insure as adequate a supply of materials for operation and maintenance as can be expected. The supply will be adequate and satisfying only when superior military needs do not require the materials. Then we must learn to use substitutes or get along without.

A Few of the Difficulties

There are many difficulties. No longer can purchasing departments order the season's new rail and track appliances with the full assurance that the shipping schedules will be met. Every order and delivery date must be followed closely. The amount and time of shipment must be co-ordinated with the needs of the military. It is difficult to tell when or whether new rail will be shipped until considered by the War Production Board and even then it is subject to sudden change on account of military exigencies. The question is not how much rail each railroad should have, but how the productive capacity of the mills should be divided between the needs of the railroads and the military.

Furnishing relay rail and track materials for many miles of track has thrown a lot of detail work on the railroad purchasing departments, which are now the track supply departments of hundreds of government projects and defense industries. The number of new freight cars and locomotives to be built can no longer be decided by each railroad for itself; and neither can it be decided by the needs of all the railroads for an estimated number of freight cars. The criterion is where the materials can be used most effectively—in building more freight cars or in building tanks, guns, ships and planes. That can only be decided by a Government Board with responsibility for over-all planning.

Purchasing departments do not complain about the volume of work thrown on them by government control of material deliveries, provided only that they get the materials. Preparation of PD-1-A and PD-200 applications for approval with supporting data is a task and the quarterly preparation of Form PD-351 for critical materials extremely burdensome. There is compensation, however, when these come back with favorable ratings, and the door is not closed for the filing of supplementary forms to correct our omissions and their reductions.

Uncertainty of deliveries of important roadway and equipment repair materials and lack of receipt of approvals from Washington are the two main bugaboos of purchasing departments. Sometimes the railroads do not present applications early enough, in which case they have only themselves to blame for delay; but in the case of PD-351 forms filed as required by the middle of each quarter, an impossible situation is presented which taxes the ingenuity of a purchasing department when priorities are not received until the first of the quarter in which the materials must be used. Buyers cannot extend any priorities, and suppliers cannot enter any orders without priorities for materials which require time to schedule and produce.

Ample Inventories Necessary

This condition requires a realistic attitude toward inventories. Safe inventories have carried stores departments over many steep grades while they have struggled to keep materials coming as fast as they are being used. Apparently it is beyond human comprehension correctly to estimate each item and time when each piece of material will be required, and to estimate when it will be received. The most carefully prepared schedules are frequently upset, either advanced because of increase in business or delayed; and as cars and locomotives are being repaired, items of material will be required that could not have been foreseen. That is the purpose of inventories.

As the difficulty of getting deliveries of certain materials increases, the bottom of the bin is being reached with one material after another. Priorities, preference rating systems, industry-wide controls, limitation orders, freezing, allocations, directives, all play important parts in directing critical materials into paths which lead to the greatest usefulness. Emergencies, however, continue to arise. Foresighted inventories have minimized the number of such emergencies to date, but there are many signs that we are approaching a crisis in the rapidly increasing number of voids.

We will be confronted with more serious material shortages. The Transportation Equipment section of the War Production Board is going to do all that is humanly possible to help us get vitally necessary materials, and regular suppliers are going to do likewise; but the inventory of critical materials must be watched as never before, and concentrated attention to specific orders will be necessary to minimize the interruptions we are going to experience in maintenance and repair work.

Railroads Bad, Government Worse

There is no doubt that many applications are presented and pressed for materials for projects which are highly desirable from a railroad standpoint, but are they so necessary from an all around point of view to justify assigning to them materials vitally needed for the military? Naturally every loyal railroad man is prone to think that his industry is so important that it should have everything necessary to do the best job that can be done, but if every industry took that position there would be but little material left with which to fight the war. Purchasing departments are the rocks on which the desires of the various departments are broken by the refusals of the War Production Board. But the railroads' demands for materials are mild indeed compared with the demands of each Government employee in charge of any project to get materials for his job regardless of its effect on others. Their motto seems to be: "Let the Devil take the hindmost." As the result of unbalanced material demands he might take us all.

Revisions Urged

Ceiling prices on many railroad supplies have saved the railroads a great deal of money; but in some cases ceiling prices have hurt the railroads. At present, no more may be paid for railroad ties than was paid last March. Railroads must have ties, however, and they cannot be secured at last March prices. Purchasing agents of railroads have had suddenly thrust upon them the burden of convincing the Office of Price Administration that something must be done about it or we are not going to get our ties.

Limitation orders have stopped the production of anti-checking irons. The amount of steel used is so small, and the damage that will result if they are not used so great, that from a plain conservation standpoint the War Production Board should be convinced that this limitation should be removed. Anti-checking irons weigh about ⅛ of a lb. and cost ¾ cents each. Two to a tie weigh ¼ lb. and cost 1½ cents. A main line creosoted tie represents an investment of about $2. What a small cost

(*Continued on page 229*)

The Railway Manufacturer and His War-Time Task

His job is to provide most of the tools the carriers use, so he shares their duties and their difficulties

By Harry A. Wheeler

President, Railway Business Association

H. A. Wheeler

THERE is a grave scarcity of practically all materials required to adequately maintain railroad way and structures and the motive power and car equipment operating thereon. Such maintenance and replacements are more than ever necessary because of increased wear and tear of continuous peak traffic movements, and must be provided if this transportation machine continues the extraordinary service record which it has made since the war program was initiated.

When scarcity exists, it is obvious that priority must run first to the production of implements of warfare, including fighting ships and planes, and of bottoms to carry to our fighting forces the munitions, supplies, and reinforcements to assure their most effective operation in every area of conflict. But the second priority clearly must be given that arm of war operation which provides the facilities of transport, and if in emergency this second priority endangers the highest efficiency of transport, it should temporarily, at least, be granted an equal status.

Of course, what I am saying applies with proportionate force to all common and contract carriers, for each is carrying its logical part of the load, and thanks to the universal determination to make their full contribution and to invite the sincere cooperation of their respective patrons, a miracle has been performed this year in the ton-miles of freight hauled and in the number of passenger-miles achieved without confusion or delay in the movement of troops and in meeting an extraordinary increase in civilian travel. But having said this, I will deal only with the railroads and the industry that serves them.

No Alternative to the Railroads

Notwithstanding the vast development of new agencies of transportation—public and private—the railroads were still carrying the bulk of the traffic at the outbreak of war and must continue to do so throughout the war. This load is steadily increasing as the rubber shortage grows and submarine operations in all of our bordering waters affect the use of such tankers and ships as remain in coastal and intercoastal service. The production of civilian goods must yield to the necessities of war, but there is a limit beyond which it cannot be cut, and facilities for its transport must be provided as well as for war movements.

The Conference Board's "preview" of July 25, quoting estimates of Federal Reserve, states that war production accounted for almost 50 per cent of the total volume of output of our factories and mines in June. A year ago the proportion was 20 per cent, and before this year is closed, the war production percentages will probably be much increased.

The railroads must therefore be prepared to meet the major responsibility for carrying raw materials to all war and non-war plants, then moving the processed materials to places where production is completed, and finally the transport of all finished product to the place of its intended use or shipment overseas.

This would in itself be a sufficiently heavy load with the equipment now available, but when there is added the troop movement and a greatly increased civilian travel, it totals a combined load that will take all the skill and resourcefulness of railroad management and manpower to avoid shortages that would necessitate severe rationing.

Neither the railroads nor any other transportation agency has ever attempted to wholly construct as well as operate their facilities. The railroad research and engineering staffs have made a most enviable record in increasing the carrying capacity of the rights of way, the speed of train movement, the safety and economy of operation, and the testing of every device offered for their consideration. But it rests with the railroad equipment and supply industry to produce most of the tools with which the railroads operate, and therefore that industry shares many of the problems now confronting the railroads.

The materials that enter into the rights of way, while closely rationed, are apparently recognized as having

such an imperative relation to operating efficiency that they must be provided to the fullest possible degree in order to permit uninterrupted high speed traffic movement, but when it comes to motive power and car equipment, neither WPB nor its predecessor SPAB have recognized the bottleneck that might develop if plant capacity is further reduced and construction materials are too severely rationed.

The building of railroad equipment is an assembly job in which fabricated materials and a great number of specialties are involved. Should the flow of these parts be interrupted severely, the whole production may be crippled. Moreover, delay in delivery of any one part may endanger the whole course of maintenance, and of new construction to provide replacements.

"Contract" Builders Essential

Probably all railroads operate car shops, but few of them are equipped to economically build new cars, and fewer to build new locomotives. Prior to our entry into the war, the monthly capacity of the "contract" car building plants was approximately 13,000, and the railroad shops perhaps not more than 1,500. As a result of the conversion of "contract" plants to war work, etc., this monthly capacity has been reduced to 9,000, but predicated upon the availability of skilled workers, the retention of a supervisory force upon whom reliance must be placed for the training of men, and an assured flow of materials to provide continuous schedules of production. It is this situation that occasioned Mr. Eastman's urgent appeal not to further convert car building plants to war production. Certainly for the duration, and perhaps long after, when the need for rehabilitation of railroad power, track, and car equipment will be as great as it was in World War I, we shall suffer if these specialized organizations are farther scattered.

When the freezing order L-97-a was issued on April 4, 1942, it stopped freight car production immediately, and new construction could not be resumed on specific orders without releases from the War Production Board. Subsequent releases were limited to the 18,000 car building program of WPB. As a result, the car builders and the railroads have been forced to shut down their erection tracks and limit production to less than 20 per cent of their capacity.

As of July 1, 1942, the total number of freight cars that were frozen by the April 4 order in the contract shops and the railroad shops was 34,179 cars. Millions of dollars worth of material already fabricated for use in the construction of freight cars is in the hands of the car builders and in the hands of the specialty manufacturers, all of it frozen by the April 4 order.

The record for the six months ended June 30, 1942, is now available, and indicates that the "contract" plants delivered 42,534 freight cars, of which 5,127 were for the foreign market and 37,405 for use within continental United States. Add to this 9,867 freight cars of all types delivered by the railroad shops. But for these timely additions of 47,274 units, the freight car supply would have been seriously hampered.

The status of usable motive power is even less satisfactory, and we now know that the WPB will make it possible to turn out only 265 new steam locomotives during the remainder of 1942. A very much larger program will be necessary next year.

I have great admiration and respect for the Director of ODT, and would not willingly add to his problems, but his statement before the Cleveland Chamber of Commerce in June of this year is so apropos of what I am trying to say that I take the liberty to reproduce it here: "The war demand for steel and other critical materials is such that the War Production Board has found it necessary to limit the building of new cars and locomotives very drastically. They are banking on the belief that the railroad industry still has a resiliency and a reserve strength which will enable it to surmount whatever difficulties may arise. As a member of the requirements committee of the board put it recently: Our railroads have to face shortages of steel and facilities, but not, we expect, of imagination and efficiency and powers of adjustment. I do not know whether those who have those expectations realize fully the extent to which railroad freight performance has improved in recent years."

One of the best stories in the history of American industries is the vitality and adaptability of the nation's railroads under private ownership and resourceful management. The two decades since the roads were released from government operation represented the most difficult period in their twentieth century history. The task of rehabilitation came first. Competition with new and unregulated agencies of transportation next called for many readjustments. Then came the long depression, with facilities available, but demand for only a small part of them, and capital charges which could not always be met.

Now comes World War II, and in the face of increasing perplexities is made the declaration of the railroads that they were prepared to handle promptly all goods and persons requiring transportation, though seeking no financial aid from the government such as other industries generally required to swing into war production.

Up to now they have done their job on their own, although steadily the volume of full rate business has declined under war restrictions and is being replaced by tonnage still subject to land grant rates, notwithstanding the Transportation Act of 1940.

It is easy to say that well doing can always be further extended, but is it fair to the subject that has already done so much? I find myself in sympathy with the editorial of the *Railway Age* released on July 4 of this year: "If enough locomotives and freight cars to handle the estimated traffic of 1943 are to be provided, the materials for them must be furnished and the building of them well started in the latter part of 1942. Past and continuing increases in the efficiency of railway operation have surpassed all reasonable expectations. Neither the War Production Board nor anybody else can enable or compel the railroads to accomplish what is physically impossible. The effect of a shortage of railway transportation should be anticipated and squarely faced now, and full responsibility for it assumed now and in the future by those alone who can prevent it."

* * *

A "Still" from the Film "Railroadin' "

Railroads Getting Less Material for Maintenance

Purchases lose forward drive as the war puts the brakes on deliveries—Consumption is up

THE railroads of the United States received more materials from suppliers in the first five months of this year and used more materials than in the same period of either 1941 or 1940; but deliveries to the railroads failed to rise each month as in 1941, and have declined in relation to railroad traffic and the rate at which materials are now being consumed.

508 Million from Manufacturers

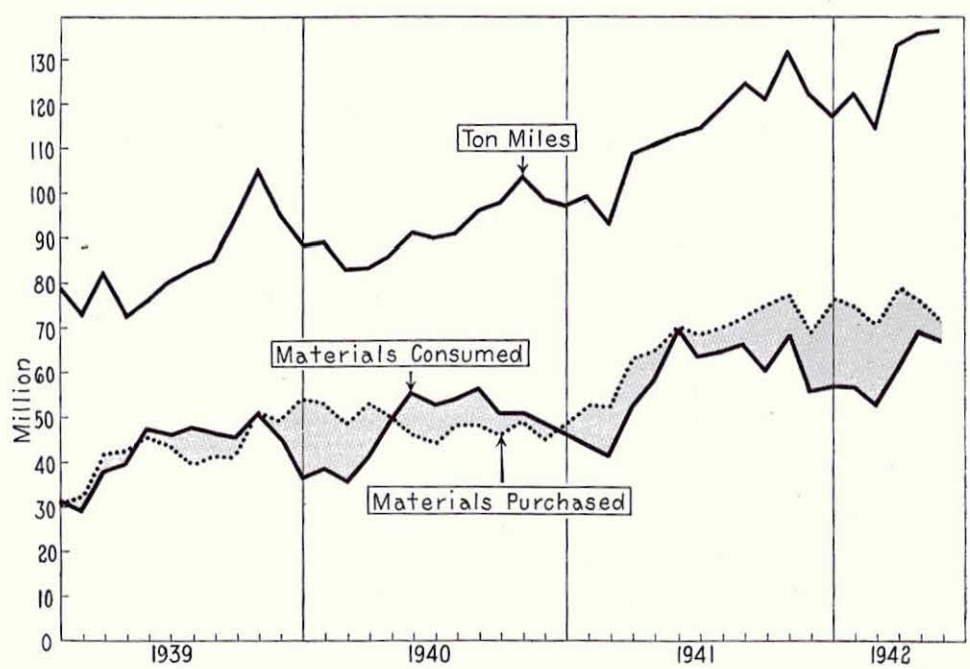
In the aggregate, the carriers received $373,698,000 of materials, exclusive of equipment and fuel, in the first five months of 1942; placed orders with builders for $134,760,000 of equipment and took deliveries of $165,672,000 of fuel—a total of $508,458,000 of material and equipment and a total of $674,130,000 of material, equipmentment and fuel. The figures include most of the materials received by the railroads for building locomotives and cars in their own shops, but are exclusive of the materials delivered by manufacturers to contractors and to car lines. The material, as estimated from special reports received from the railroads, included approximately $18,695,000 of rail, $29,105,000 of crossties and $325,898,000 of iron and steel, lumber and other materials for railway maintenance and repair. Owing to the delays which railroads have experienced in getting materials since the war began, the figures for 1942 necessarily include large amounts of materials which were ordered in 1941.

Materials, exclusive of fuel, received by the railroads in the five months exceeded the corresponding deliveries in the first five months of 1941 by $70,979,000, or 19 per cent, and the total was larger by $121,042,000, or 32 per cent, than in the first five months of 1940 and was larger by $180,925,000, or 94 per cent, than in the first five months of 1939. The five months' total of this year was about equal to the corresponding volume of materials received in the first five months of 1930, but was smaller than the corresponding total for the first five months of 1929 by approximately $32,611,000, or 8 per cent.

Orders placed by the railroads with builders for equipment, now restricted by government rulings, were $96,760,000 less than in the first five months of 1941, with the result that the purchases of material and equipment from manufacturers in the first five months of this year were 5 per cent less than the corresponding total in 1941.

Deliveries of new locomotives and cars taken by the railroads during the first five months of the year, including deliveries from railroad shops, totaled approximately $178,700,000, as compared with approximately $127,500,000 of new equipment in the same period of 1941 and $125,000,000 in the corresponding months of 1940.

Up to June 1, railroads took deliveries of approximately 25 per cent, or $34,636,000, more fuel than in the same period of 1941 and 45 per cent, or $51,169,000, more than in the first five months of 1940. Subject to revision, rail deliveries were about 25 per cent lower than in either the first five months of 1941 or 1940, and were 63 per cent under the deliveries in the first five months of 1929. About 45 per cent more crossties were received up to June 1 this year than in the first five



The Month-to-Month Trend of Materials Received and Consumed by the Railroads in Dollars and the Traffic in Gross Ton-Miles, Including Locomotives

months of 1941, while deliveries of other materials in the five months' period were larger in the aggregate by $67,968,000, or 21 per cent, than in the same period of 1941; were larger by $121,182,000, or 60 per cent, than in the first five months of 1940, and exceeded the corresponding deliveries in the first five months of 1939 by $168,843,000, or 107 per cent.

Materials in Stock — Class I Railroads

1939	Fuel (000)	Rail—New and S. H. (000)	Cross ties (000)	Stores stock (000)	Scrap (000)	Total (000)
Jan. 1	$22,660	$24,733	$59,491	$199,477	$11,200	$317,561
Feb. 1	25,594	24,691	61,796	196,330	10,393	318,804
Mar. 1	27,100	26,229	63,346	196,669	10,239	323,583
Apr. 1	29,445	27,695	65,246	197,383	10,686	330,455
May 1	24,101	28,459	60,749	203,806	11,217	328,332
June 1	21,048	29,345	57,067	205,169	11,548	324,177
1940						
Jan. 1	$21,778	$25,552	$51,359	$216,996	$11,551	$327,236
Feb. 1	22,454	28,213	58,187	222,127	11,862	342,843
Mar. 1	23,190	31,546	60,615	230,045	11,576	356,972
Apr. 1	21,016	34,388	64,466	234,899	11,509	366,278
May 1	21,343	35,826	63,945	234,866	11,551	367,531
June 1	22,419	34,818	60,070	231,308	11,275	359,890
1941						
Jan. 1	$24,780	$26,026	$57,894	$214,601	$11,371	$334,672
Feb. 1	24,591	26,600	60,311	220,887	10,728	343,117
Mar. 1	27,105	28,217	62,455	228,012	10,859	356,648
Apr. 1	30,984	28,573	65,356	235,404	11,102	371,419
May 1	23,486	25,649	58,349	251,691	9,632	368,807
June 1	24,578	26,461	57,051	252,972	10,357	371,419
1942*						
Jan. 1	$40,040	$23,986	$48,426	$338,839	$8,808	$460,099
Feb. 1	40,450	22,705	60,963	346,425	10,932	481,475
Mar. 1	40,220	23,888	64,309	360,910	10,481	499,808
Apr. 1	42,227	23,722	67,707	376,064	9,869	519,589
May 1	44,579	23,073	66,438	384,709	10,040	528,839
June 1	44,060	23,367	63,201	391,782	10,789	533,199

* Subject to revision.

In view of the extreme dislocations in the present movement of materials, these comparisons between overall figures may not be taken as true indications of the situation with respect to certain materials, especially scarce materials, the delivery of which is often necessary to the use of much larger volumes of other materials.

Materials Moving Less Freely

Not only has there been no restriction on the purchase of coal other than the number of cars available at any time in which to move it, but the railroads, like other consumers of coal, have been urged to store it, with the result that practically all the railroads have been receiving substantially more coal each month this year than in similar months of previous years and these increases have ranged from 10 to 70 per cent.

Railway Purchases — Supplies and Equipment — 5 Months

	Materials received from mfrs. (000)	Equipment ordered from mfrs. (000)	Total from from mfrs. (000)	Fuel (000)	Total including fuel (000)
1929	$406,309	$207,474	$613,783	$146,791	$760,574
1930	375,089	99,287	474,376	138,511	612,887
1931	231,778	11,136	242,914	107,222	350,136
1932	125,862	1,910	127,772	83,284	211,056
1933	92,246	2,119	94,365	70,732	165,097
1934	172,051	48,616	220,667	92,900	313,567
1935	147,221	7,596	154,817	105,420	260,237
1936	210,817	62,301	273,118	110,602	383,720
1937	300,072	147,024	447,096	127,998	575,094
1938	141,831	12,780	154,611	100,751	255,362
1939	192,773	41,394	234,167	105,559	339,726
1940	252,656	42,633	295,289	114,503	409,792
1941	302,719	230,993	533,712	131,036	664,748
1942*	373,698	134,760	508,458	165,672	674,130

* Subject to revision.

On the other hand, the railroads have been faced with increasing limitations on their purchases of other materials, extending from positive restrictions on the quantities that may be purchased or stored to the outright elimination of materials for unauthorized construction programs. Reductions in the tonnages of rail and plates, which are under allocation, and the severe curtailment of car building programs have all had their effect in diminishing of volume of critical materials which the railroads have received and been able to use.

While receipts of materials, other than fuel, were larger during each of the first five months of this year than in the corresponding months of either 1941 or 1940 and were equal in the aggregate to the total receipts of materials, exclusive of fuel, in the last five months of 1941, they not only did not increase from month to month as in 1941, but were smaller in the aggregate in April than in March and smaller in May than in April. As a result, the May total of materials received, exclusive of fuel, was only 2 per cent larger than the corresponding total in May, 1941, as compared with the situation in January of this year when the total was larger by 44 per cent than in January, 1941; while the accumulated gain for the five months of this year was only 23 per cent larger than the first five months' total in 1941.

Materials and Supplies Received — Class I Railroads*

1939	Fuel (000)	Rail (000)	Cross ties (000)	Other material (000)	Total (000)	Total less fuel (000)
Jan.	$23,377	$483	$2,445	$27,374	$53,679	$30,302
Feb.	23,063	2,934	2,632	26,721	55,350	32,287
Mar.	24,361	4,631	3,660	33,467	66,119	41,758
Apr.	17,833	5,370	3,297	33,842	60,342	42,509
May	16,925	6,569	3,697	35,651	62,842	45,917
5 Mos.	$105,559	$19,987	$15,731	$157,055	$298,332	$192,773
1940						
Jan.	$24,977	$3,529	$4,128	$45,593	$78,227	$53,250
Feb.	24,219	4,815	3,928	39,939	72,901	48,682
Mar.	21,880	6,043	4,634	42,655	75,212	53,332
Apr.	21,575	6,470	4,585	39,407	72,037	50,462
May	21,852	5,019	4,789	37,122	68,782	46,930
5 Mos.	$114,503	$25,876	$22,064	$204,716	$367,159	$252,656
1941						
Jan.	$27,261	$3,464	$3,472	$45,457	$79,654	$52,393
Feb.	27,901	5,297	3,514	43,467	80,179	52,278
Mar.	31,121	5,168	4,087	54,070	94,446	63,325
Apr.	19,203	4,857	4,365	55,444	83,869	64,666
May	25,550	6,196	4,369	59,492	95,607	70,057
5 Mos.	$131,036	$24,982	$19,807	$257,930	$433,755	$302,719
1942						
Jan.	$32,411	$2,525	$5,058	$67,998	$107,992	$75,581
Feb.	31,561	3,134	4,997	62,246	101,938	70,377
Mar.	33,577	3,072	6,319	70,071	113,039	79,462
Apr.	34,672	4,856	6,311	65,124	110,963	76,291
May	33,451	5,108	6,420	60,459	105,438	71,987
5 Mos.	$165,672	$18,695	$29,105	$325,898	$539,370	$373,698

* Subject to revision.

Reductions Reported

Most of the railroads reported larger receipts of materials, exclusive of fuel, for the first five months of 1942 than for the corresponding period of 1941. In contrast with the situation in the previous year, however, when all roads reported increases in material deliveries, 20 railroads reported smaller receipts of materials during the five months than in the same five months of the previous year. The reductions were 8 per cent on the Atchison, Topeka & Santa Fe; 11 per cent on the Central of Georgia; 7 per cent on the Chicago, Indianapolis & Louisville; 8 per cent on the Denver & Rio Grande Western; 15 per cent on the Louisville & Nashville; 22 per cent on the St. Louis-San Francisco; 1 per cent on the Southern; 11 per cent on the Western Maryland; and 29 per cent on the Wheeling & Lake Erie.

Based on the best information available at this time, the materials, exclusive of fuel and also ties and rail, received by the railroads in the aggregate during May amounted to $60,459,000, which was approximately $5,000,000 under April and about $8,000,000 under Jan-

uary, and was the smallest amount of material received for maintenance and repair many months since May, 1941.

During the first five months of 1942, the railroads used approximately $306,599,000 of new materials, exclusive of fuel. This was about $47,926,000, or 15 per cent, more than the material consumption in the first five months of 1941, and larger by $92,315,000, or 39 per cent, than in the same months of 1940. For more than a year, however, largely because of outside interference with construction programs, the railroads have been using less material each month in the aggregate than was received by them, and the rate of consumption declined each month from April, 1941, when approximately $69,-

Materials in Stock — Class I Railroads — June 1, 1942

	Rail			Crossties			Other Material Less Fuel		Scrap	
	June 1, 1942	Increase 12 Mos.	O.H. Per Mile	June 1, 1942	Increase 12 Mos.	O.H. Per Mile	June 1, 1942	Increase Per Cent	June 1, 1942	Increase Per Cent
A. C. & Y.	$4,222	$3,462	$25	$55,795	$32,692	$326	$147,511	34	$1,502	—66
Alton	90,857	38,440	95	233,379	186,863	243	1,202,909	101	25,204	78
Alton & Sou	49,301	38,297	560	18,247	2,268	207	104,868	79	1,386	—61
Ann Arbor	111	—7,492	...	18,513	—467	63	227,326	27	943	—38
A. T. & S. F.	1,270,937	—766,123	95	7,769,709	848,191	581	18,223,084	50	NS†	..
A. C. L.	347,744	134,276	69	497,803	317,400	99	5,180,725	96	None	..
B. & O.	609,881	265,571	97	1,224,295	—346,019	195	12,716,393	47	NS†	..
Bang. & Aroo	68,871	—43,865	114	57,516	—15,861	95	707,854	1	5,927	—75
Bing. & Gar	27,555	10,300	835	28,154	14,004	853	78,826	166	348	—61
B. & M.	183,733	—93,535	98	817,208	210,238	438	3,428,573	44	10,828	—35
Bur.-R. I.	1,107	—583	5	18,911	3,925	77	34,824	13	728	81
Cam. & Ind.	2,815	—13,493	76	333	—7,781	9	61,210	34	459	—64
C. of Ga.	15,077	—64,949	8	253,337	—92,979	140	1,421,796	64	43,435	35
C. of N. J.	123,726	94,223	187	277,758	14,843	420	2,549,112	80	75,065	96
Cent. Vt.	66,983	—11,698	159	75,083	—18,088	178	503,715	33	13,114	—17
Char. & W. Car.	2,803	887	8	12,466	9,799	36	263,805	16	5,071	71
C. & O.	136,069	.....	44	705,901	.....	226	5,695,126	...	304,648	..
C. & E. I.	40,315	—145,853	44	155,365	—26,727	168	1,332,372	87	56,448	27
C. & I. M.	36,317	—66,870	277	55,155	40,830	421	543,315	18	9,186	143
C. & N. W.	594,529	—187,942	72	1,829,386	—298,112	220	7,684,751	31	NS†	..
C. & W. Ind.	39,435	—40,462	220	26,574	—26,050	148	311,037	21	6,284	—21
C. B. & Q.	749,385	211,146	83	3,127,787	768,517	344	7,924,768	96	1,014,360	53
C. G. W.*	154,625	57,678	103	137,662	—55,583	92	900,398	52	NS†	..
C. I. & L.	128,923	—20,435	233	95,252	—3,561	173	503,337	24	35,568	77
C. R. I. & P.*	346,212	—486,652	44	1,178,596	—213,874	149	7,059,314	40	210,155	—13
C. St. P. M. & O.	108,909	—20,864	67	439,358	—69,339	270	1,417,817	69	NS†	..
Clinch	27,692	—27,568	90	70,276	—3,050	228	469,059	41	17,815	—39
Colo. & Sou.	22,853	—9,288	31	103,351	18,219	137	232,477	10	19,974	2
C. & G.	39,731	35,911	236	981	—377	6	138,133	27	5,552	20
D. & H.	215,710	19,178	254	294,275	—182,207	347	2,670,941	52	132,561	30
D. L. & W.	172,485	54,462	175	359,302	140,942	365	2,719,222	75	57,614	18
D. & R. G. W.	367,308	—30,516	152	42,785	—134,918	176	3,920,639	50	18,883	—33
Det. & Mack.	25,255	—7,930	104	21,297	—12,600	88	140,342	7	686	15
D. & T. S. L.	5,461	—8,700	109	5,766	—3,739	115	144,823	24	961	—49
D. T. & I.	75,060	28,285	161	121,596	15,508	261	554,433	37	7,626	10
D. M. & I. R.	108,815	21,068	200	211,566	—14,043	390	1,396,589	59	19,271	—47
D. S. S. & A.	56,619	20,432	103	70,144	6,383	127	209,578	27	NS†	..
E. J. & E.	209,347	—76,652	534	190,473	2,800	486	1,302,676	35	65,352	22
Erie	547,158	295,247	243	923,121	—12,975	410	4,904,785	87	172,324	—36
F. E. C.	62,041	—187,840	91	287,521	263,693	420	1,615,170	26	36,889	27
Ft. W. & D. C.	8,707	4,261	11	67,032	16,482	84	495,793	33	25,290	—23
G. N.	640,375	—564,891	79	1,649,182	554,429	204	10,420,657	52	NS†	..
G. M. & O.	8,415	—60,054	4	403,061	117,619	205	1,552,803	46	1,132	—35
I. C.	175,466	34,605	26	436,099	—130,303	66	10,488,659	82	602,626	—30
Ill. Term.	35,959	4,205	76	79,957	18,899	168	358,152	12	2,421	—30
K. C. S.*	155,992	—19,226	176	493,153	284,189	560	1,253,259	65	5,843	—9
K. C. Term.	275	—5,848	2	50,869	5,230	299	219,650	29	12,795	14
L. S. & Ish.	67,115	29,118	430	25,162	—2,267	161	209,488	—15	3,845	—22
Leh. & Hud. R.	9,526	—21,917	99	7,834	—21,581	82	129,606	91	1,625	—30
L. & N. E.	42,025	32,757	221	24,680	2,058	130	443,206	42	9,398	—56
Lehigh Valley	110,531	—36,799	88	368,989	—8,021	292	2,269,376	20	48,248	—7
L. & A.	126,748	48,004	145	200,288	120,995	228	709,385	22	58,735	280
L. & N.	357,837	—339,083	75	2,342,737	58,354	488	8,585,727	29	66,703	—53
Me. Cent.	28,377	—85,345	29	118,705	11,960	120	1,092,493	35	28,295	42
Miss. Cent.	16,978	10,396	107	4,622	—859	29	77,301	45	390	..
M. & A.	5,127	—575	14	4,185	1,258	11	46,246	7	NS†	..
M-K-T	123,089	53,150	37	571,697	335,550	174	2,178,035	47	NS†	..
M. P.*	1,061,858	.....	106	2,347,266	.....	247	12,489,757	...	NS†	..
Monongа	25,894	16,729	151	31,327	3,325	182	283,656	36	975	—79
Montour	13,786	8,096	270	16,011	5,768	314	189,876	24	870	—59
N. C. & St. L.	85,245	—6,361	77	493,384	112,428	444	1,998,667	32	NS†	..
Nev. Nor.	17,675	10,549	107	42,119	22,465	255	121,277	49	2,966	140
N. Y. C.	2,240,909	666,888	201	5,852,704	858,230	525	34,707,177	37	NS†	..
N. Y. C. & St. L.	51,325	.....	30	367,495	.....	218	2,407,648	...	124,359	..
N. Y. N. H. & H.	273,260	—78,333	147	284,687	—515,217	153	5,681,962	30	63,242	—29
N. Y. O. & W.	8,864	—7,031	16	1,666	—12,176	3	423,648	24	10,656	—14
N. Y. S. & W.	17,603	13,252	67	17,471	7,217	67	181,633	78	3,078	—54
N. P.	394,992	680	57	1,448,141	65,123	210	8,360,854	51	275,174	24
N. W. P.*	15,602	8,057	45	33,689	3,178	98	78,320	40	NS†	..
Peoria & Pekin	8,335	.....	54	32,752	.....	214	168,112	...	6,371	..
P. M.	105,214	.....	51	663,335	.....	323	2,676,354	...	94,423	..
Pitts. & Shaw.	3,365	—1,461	35	7,777	—23,975	80	70,783	13	1,119	—72
Pitts. Sh. & Nor.	924	—2,958	5	6,068	—12,385	97	80,855	45	3,986	—9
Reading	151,766	53,299	106	440,776	87,804	308	7,185,209	71	69,624	94
R. F. & P.	NS†	.....	...	NS†	.....	...	1,272,514	17	NS†	..
Rutland	34,126	8,699	84	16,282	—8,981	40	306,678	44	7,012	21
St. L.-S. F.	96,300	—96,906	20	610,470	154,788	124	3,570,129	19	NS†	..
St. L. Sou.	186,503	—38,782	115	252,721	—58,032	156	2,853,295	36	NS†	..
Southern	472,406	—205,690	61	1,060,838	—109,843	136	8,223,817	27	301,069	—36
Southern*	374,993	—293,934	48	1,140,373	—114,364	147	8,173,088	28	372,780	—13
S. P.*	608,606	—329,923	71	2,545,131	1,230,568	300	12,459,500	78	NS†	..
S. P. & S.	142,406	—8,865	152	340,066	241,638	362	1,478,880	98	34,908	57
Tenn. Cent.	NS†	.....	...	9,922	6,995	35	336,345	61	NS†	..
Term. of St. L.	59,699	44,160	163	23,230	10,261	63	523,669	58	29,158	40
T. & N. O.	27,646	—61,033	6	660,976	227,978	149	3,924,315	49	56,932	—26
T. & P.	289,640	—133,124	153	380,129	121,937	201	3,695,105	26	NS†	..
U. P.	2,237,375	—255,054	227	1,288,118	—1,272,147	131	36,052,025	114	240,395	—11
Utah	26,337	—7,593	237	60,512	4,399	545	184,706	—1	2,481	—50
Virginian	226,689	35,919	347	324,116	19,380	496	3,483,490	72	72,963	—5
Wabash	110,704	87,859	46	202,233	—72,631	85	3,582,139	56	8,380	—52
W. M.	18,769	18,769	22	463,549	68,856	540	1,505,098	33	53,310	—2
W. P.*	189,400	—89,600	158	212,300	—27,800	175	1,936,300	43	29,400	129
W. & L. E.	168,963	—41,037	330	194,358	—14,253	380	1,265,772	22	13,643	33

*May 1, 1942. †Not Separated.

262,000 of materials, exclusive of fuel, were consumed, to and including February, 1942, when the total was only $51,362,000, a decline of 25 per cent.

As a result, the railroads used about $67,099,000, or 18 per cent, less material in the first five months of 1942 than they received. Beginning in March, however, material consumption has shown successive gains, rising from $51,362,000 in February to $61,076,000 in March, to $69,564,000 in April and to the total, indicated at this time, of $67,858,000 in May. The average for the last two months was a new peak in material consumption for the war period and, for the first time in over a year, reflects a rate of consumption equal to or in excess of the rate at which material is being delivered.

Materials Received and Consumed, Less Fuel

	Received				Consumed			
		Per Cent Increase Over				Per Cent Increase Over		
	1942 (000)	1941	1940	1939	1942 (000)	1941	1940	1939
January ...	$75,581	44	41	149	$56,739	31	47	82
1 Month..	75,581	44	41	149	56,739	31	47	82
February ..	70,377	34	44	118	51,362	24	46	77
2 Months.	145,958	39	43	133	108,101	28	48	81
March	79,462	25	49	90	61,076	16	43	61
3 Months.	225,420	34	45	115	169,177	23	47	74
April	76,291	18	49	79	69,564	19	40	74
4 Months.	301,711	29	47	106	238,741	22	46	73
May	71,987	2	53	56	67,858	−2	22	43
5 Months.	373,698	23	47	94	306,599	15	39	67

Rail and Tie Stocks Dwindle

From a statistical standpoint, railroads in the aggregate were still in a strong inventory position on June 1, with approximately $535,199,000 of materials in stock, consisting of $44,600,000 of fuel, approximately $23,367,000 of new and second hand rail, $63,201,000 of ties (including ties awaiting seasoning at treating plants) and $391,782,000 of material, together with about $10,789,000 of uncleared scrap, as nearly as the grand divisions of material balances can be determined at this time from special reports received from reporting railroads. While the consolidated material balance, including fuel, of the Class I steam railroads on June 1 was 43 per cent over the corresponding balance on June 1, 1941, and 64 per cent above that for June 1, 1940 (unadjusted for changes in prices), it was 12 per cent less than the balance at the close of 1919, the second year of the war, and 30 per cent less than the total at the end of the year in which the railroads were returned to their owners.

Purchases of Material, Less Fuel — 5 Months

Road	1942	Per Cent of Operating Revenue	1941	Per Cent Increase
A. C. & Y.	$152,532	11.4	$103,924	47
Alton	2,222,435	20.7	1,179,453	88
Alton & Sou.	158,779	...	88,806	79
Ann Arbor	239,193	11.3	232,508	3
A. T. & S. F.	14,618,201	12.1	15,877,828	−8
A. B. & C.	270,800	12.8	237,121	14
A. C. L.	7,190,649	16.8	3,968,994	81
B. & O.	15,147,326	13.1	12,470,181	21
Bang. & Aroo.	383,910	11.1	317,404	21
Bing. & Gar.	182,871	...	72,907	151
B. & M.	3,391,091	11.3	2,330,708	45
Bur.-R. I.	29,292	4.8	12,475	135
Cam. & Ind.	44,887	5.1	73,499	−39
C. of Ga.	1,272,511	12.3	1,428,627	−11
C. of N. J.	2,985,356	13.4	2,675,072	12
Cent. Vt.	395,094	12.4	293,048	35
Char. & W. Car.	260,448	16.3	287,018	−9
C. & O.	6,545,194	9.6	6,896,160	−5
C. & E. I.	1,352,966	16.2	1,237,045	9
C. & I. M.	428,874	16.9	452,273	−5
C. & N. W.	7,425,203	14.8	6,328,245	17
C. & W. Ind.	262,078	...	308,424	−15
C. B. & Q.	9,648,521	17.2	6,388,489	51
C. G. W.*	1,233,997	15.9	959,499	29
C. I. & L.	481,269	10.3	515,168	−7
C. R. I. & P.*	5,536,043	15.0	3,969,242	39
C. St. P. M. & O.	1,360,380	15.4	1,032,283	32
Clinch.	544,152	10.9	458,896	19
Colo. & Sou.	578,279	15.6	465,508	24
C. & G.	139,294	27.3	62,994	121
D. & H.	2,450,421	13.6	1,873,128	31
D. L. & W.*	2,440,766	11.1	2,302,099	6
D. & R. G. W.	2,547,304	15.1	2,781,624	−8
Det. & Mack.	42,278	12.0	53,605	−21
D. & T. S. L.	143,891	7.9	129,827	11
D. T. & I.	337,587	9.2	244,500	38
D. M. & I. R.	1,280,927	13.0	1,118,477	15
D. S. S. & A.	200,971	13.1	283,923	−29
E. J. & E.	1,136,609	8.3	1,100,636	3
Erie	5,712,544	10.9	4,453,896	28
F. E. C.	938,397	11.9	612,632	53
Ft. W. & D. C.	627,224	19.3	394,373	59
G. N.	10,236,943	19.5	8,606,361	19
G. M. & O.	2,080,363	17.6	1,029,643	102
I. C.	12,649,694	15.9	9,536,722	33
Ill. Term.	575,941	17.4	408,191	41
K. C. S.*	1,495,906	17.8	1,220,472	23
K. C. Term.	297,854	...	280,932	6
L. S. & Ish.	78,295	6.7	109,319	−28
Leh. & Hud. R.	121,265	8.3	98,543	23
L. & N. E.	198,300	8.6	150,677	32
Lehigh Valley	2,455,633	8.9	2,185,481	12
L. & A.	619,383	11.8	680,055	−9
L. & N.	6,309,787	10.3	7,406,399	−15
Me. Cent.	917,422	12.6	619,236	48
Miss. Cent.	80,438	14.2	58,377	38
M. & A.	65,091	10.3	77,072	−16
M-K-T	2,477,918	13.0	1,045,545	137
M. P.*	8,786,893	14.5	7,950,284	11
Monongа.	215,648	7.3	173,996	24
Montour.	120,126	11.7	91,369	31
N. C. & St. L.	1,469,179	14.9	1,122,574	31
Nev. Nor.	71,978	24.2	78,530	−8
N. Y. C.	34,126,817	14.8	28,683,306	19
N. Y. C. & St. L.	2,858,966	8.7	2,030,115	41
N. Y. N. H. & H.	6,432,413	11.1	5,046,862	27
N. Y. O. & W.	303,228	10.5	222,311	36
N. Y. S. & W.	100,169	6.2	82,988	21
N. P.	7,703,829	19.2	4,930,670	56
N. W. P.	93,997	5.6	50,590	86
P. R. R. & L. I.	42,741,773	13.3	32,457,134	32
P.-R. S. S. L.	217,262	7.3	291,669	−26
Peoria & Pekin	153,471	...	...	..
P. M.	2,052,542	12.5	2,036,959	1
Pitts. & Shaw.	36,815	7.6	44,156	−17
Pitts. Sh. & Nor.	70,768	11.0	51,702	37
Reading	7,157,709	17.9	4,686,098	53
R. F. & P.	921,864	9.3	727,816	27
Rutland	171,303	10.1	168,289	2
St. L.-S. F.	3,559,194	11.7	4,551,417	−22
St. L. Sou.	2,503,069	15.1	2,311,783	8
Southern	11,383,866	11.8	11,469,225	−1
S. P.	14,858,096	11.5	9,351,253	59
S. P. & S.	1,261,298	18.4	1,104,943	14
Tenn. Cent.	395,821	25.0	175,877	125
Term. of St. L.	887,280	...	478,172	86
T. & N. O.	3,324,496	9.7	2,689,459	24
T. & P.	3,686,616	21.9	2,429,552	52
U. P.	24,239,381	22.0	12,749,679	90
Utah	41,208	8.1	34,435	20
Virginian	2,728,322	24.1	1,146,838	138
Wabash	4,880,974	17.5	3,149,288	55
W. M.	1,832,400	16.0	2,054,122	−11
W. P.*	1,663,460	16.7	1,102,300	51
W. & L. E.	1,118,004	12.3	1,579,198	−29

* 4 Months.

Adequate Inventories Necessary

Railroad inventories, unlike inventories of manufacturers, represent reserves of material for use by railroads rather than for sale and, therefore, include large amounts of relatively inactive materials of a special nature which are kept for protection against breakdown of equipment, including such items as sections of spare rail maintained at regular intervals on the railroads to replace rail broken in service. Present inventories also include quantities of materials which were accumulated for car building or other construction programs which have been curtailed by orders from Washington or delayed by unexpected developments in material procurement, including the inability to get all of the materials necessary for specific programs.

The consolidated figures, it is evident, do not necessarily reflect adequate or excessive accumulations of critical materials in constant demand and, as a matter of fact, 42 railroads reported less rail on hand on June 1 this year than on June 1, 1941, while 30 railroads reported smaller stocks of ties.

General Committee—Div. VI—A.A.R. in Chicago, July 30, 1942

Left to right—M. E. Towner, (W. Md.); G. M. Betterton, (S. P.); J. C. Kirk, (C. R. I. & P.); C. H. Murrin, (L. & N.); E. W. Walther, (B. & O.); O. A. Donagan, (B. & Me.); W. W. Kelly, (O. D. T.); E. J. Lamneck, (Penna.); L. P. Krampf, (M. P.), chairman; W. J. Farrell, (A. A. R.); G. O. Beale, (C. & O.); H. E. Warren, (G. M. & O.); and C. L. Wakeman, (Wab.); Back row, J. McMahon, (A. A. R.); E. L. Fries, (N. P.); F. S. Austin, (N. Y. C.); and C. B. Neubauer, (Sou.).

Railway Supply Forces Prescribe for Effective War Effort

Veterans of procurement alive to emergency—Stress uniform standards, scrap and loading—Print handbook on salvage

ALTHOUGH the Purchases and Stores Division, AAR, held no general meeting of its members this year and deferred the work of numerous standing committees, the supply departments of the railroads are not only thoroughly alive to the critical material situation confronting the railroads and the Nation but have been effectively, though quietly, adjusting themselves to the changing conditions and laying a solid ground work for every eventuality. This was revealed by reports on the activities of the Division which were released at a meeting of the General Committee in Chicago on July 30-31.

The meeting was attended by L. P. Krampf, supply agent, Missouri Pacific, and chairman of the Division; E. J. Lamneck, general purchasing agent, Pennsylvania, vice chairman; W. J. Farrell, executive vice chairman; G. O. Beale, chief purchasing officer, Chesapeake & Ohio; F. S. Austin, purchasing agent, New York Central; G. M. Betterton, general purchasing agent, Southern Pacific; O. A. Donagan, general storekeeper, Boston & Maine; E. L. Fries, general purchasing agent, Union Pacific; J. C. Kirk, purchasing agent, Rock Island; C. H. Murrin, general storekeeper, Louisville & Nashville; C. B. Neubauer, assistant to vice president, Southern; W. E. Towner, general purchasing agent, Western Maryland; C. L. Wakeman, general storekeeper, Wabash; E. L. Walther, general storekeeper, Baltimore & Ohio; and H. E. Warren, manager purchases and stores, Gulf, Mobile & Ohio. It was also attended by W. W. Kelly, director of materials, Office of Defense Transportation, who is also a member of the general committee, and by A. L. Sorensen, assistant to vice president, AAR, who is a member of the advisory committee of the Division.

Favor Scrap Drives

At the conclusion of the meeting, during which the situation in Washington and new developments in getting railway material were discussed at length with ODT's director of material, a report of the general committee on the work of the Division and special committees of the Division in Washington and elsewhere and reports of 16 other committees of the Division were released for the information of the members, subject to further discussion and their adoption at the next general meeting of the membership or by letter ballot. Scrap drives, reclamation, simplification of railway material and loading and handling cars to reduce the demand on rolling stock for moving railway materials were most

prominent among the subjects reviewed; while other committees brought in reports on fuel buying, stationery and printing, methods of handling materials, storekeeping at terminals and the prevention of loss and damage.

Practical Suggestions

Pooling of special cars for company material, double decking for shipping stores material and converting cars to types which carry twice the number of mounted wheels were among the ideas presented for reducing the use of freight equipment. A handbook, it was announced, has been issued which lists in handy and understandable form several hundred ways in which old materials can be reclaimed for further use. Other divisions of the Association were pressed for action on past recommendations by the Purchases and Stores Division to unify standards for materials, and new proposals were made to liberalize tolerances on some repair work and to lower standards in welding many car and locomotive parts, at least for the duration of the emergency. It was brought out that 36 railroads are using 505 sizes of steel bars and that 28 railroads are using 73 varieties of cellar box pins. Junking inactive accumulations of structural steel and ripping out rail laid as foundations for material in storage yards were advocated as means for producing more scrap for defense industries and conservation, reclamation and scrap collections were urged as a patriotic duty.

While, for the first time in several years, the Division held no competition among purchasing and stores department employees for papers on material handling and stores management, this competition will be resumed, it was indicated, to stimulate more complete co-ordination in supply work during the emergency, and both the directors and the personnel of the committees of the Division will carry on until the next general meeting. A special statement to *Railway Age* from the chairman and abstracts of the committee reports follow.

We Must Do Better

By L. P. Krampf*

The railroads contribution to the war effort has placed added responsibilities on all of their employees, including the members of the Purchases and Stores Division, A.A.R., who are charged with the task of procuring the materials which are so vital to the efficient operation of the railroads. Existing conditions made it inadvisable to hold an annual meeting of the Division. However, it was necessary that some of the more important committee subjects be kept active by progress reports so that developments for the improved operation of the railroads could be passed on to the membership of this division. These reports were therefore analysed at a meeting of the General Committee of the Division.

The committee on Scrap Handling and Preparation, Classification and Sale has been especially active during the last year and the railroads have contributed substantially to the supply of available scrap which is needed so badly not only by shipping to steel mills and scrap dealers every pound of scrap to be found but also by releasing metals which had served their original purpose and were being used for the storage of materials and other facilities, although the cost of removing this scrap may have been more than the returns realized.

* Chairman, Division VI, Purchases and Stores, Association of American Railroads, and Supply Agent, Missouri Pacific.

L. P. Krampf—Chairman, Div. VI—A.A.R.

Paralleling the subject of scrap is that of General Reclamation, or in other words the converting of scrap into items for additional service. As the supply of available materials diminishes it is all the more important that those materials which are obtainable be worked over or reclaimed to serve their maximum life. This committee, in co-operation with the Mechanical and Engineering divisions, has revised, and the Association of American Railroads will send to member roads, a list of more than 700 items which can and should be reclaimed and repaired. All railroads have put on intensive campaigns to conserve materials by reclamation and repair, not only because a great many items are difficult to obtain, but also to make more materials available for defense purposes. Special mention is being made of these two subjects as they are most vital to the war effort.

Not since 1918 have the railway supply officers faced such a difficult task as that which confronts them today —providing an adequate supply of materials. This requires all of our energies, our resourcefulness and constant attention to details. Railroads, to operate, require thousands upon thousands of items of materials currently, and many of these are of "critical" nature. So far, in general, supply officers have been able to obtain materials in sufficient quantities but it has been difficult. It will be more so in the future. We have done well, but we will have to do better.

Report of General Committee

During the year a sub-committee was appointed, consisting of members of the Committee on Simplification and Standardization, to meet with representatives of the Mechanical division to consider methods of reducing the consumption of tin and rubber through changes in specifications, substitution and specific recommendations on the care and use of these materials. The report of the committee was sent to the roads.

At the suggestion of the vice president, AAR, a special committee consisting of representatives of the Purchases and Stores, Mechanical, Engineering and Operating and Transportation divisions was also appointed to study standardization and simplification of materials to promote volume production and the use, so far as possible, of national specifications. As a result of

action taken by this committee, the various divisions and sections of the Association have issued emergency and alternate specifications, effective for the duration of the present emergency.

In addition, the Division has been actively co-operating with the other divisions of the Association in considering important questions in connection with the conservation of materials through the revision of specifications, simplification and substitution of less critical materials where possible.

In order to obtain prompt action on reports requiring the immediate approval of the General committee, the chairman appointed an emergency committee from the members of the General committee—consisting of E. J. Lamneck, general purchasing agent, Penna.; F. S. Austin, purchasing agent, N. Y. C.; C. B. Neubauer, assistant to the vice president, Sou.; M. E. Towner, general purchasing agent, W. Md.; and E. W. Walther, general storekeeper, B. & O.

Priorities

The priority situation has been the major activity of the Division during the past year and has precluded the usual committee activities. The executive vice chairman's office at Washington has been in direct contact with the War Production Board and the Office of Defense Transportation on all matters relating to railroad material requirements, and in soliciting the roads for necessary information on materials for the War Production Board. The special purchasing committee of the Division will continue to co-operate with the vice president, Operations and Maintenance, AAR, and the National war agencies and furnish purchasing officers with information on materials.

The General Committee decided that the subject committees appointed for 1941-1942 should be continued during 1943 with the same personnel.

Reclamation Manual

As a result of study by the Joint Committee on Reclamation, a loose-leaf manual of recommendations for the reclamation of materials by recovery and repair has been issued to member roads. The manual is arranged in accordance with the AAR standard material classification and includes practical suggestions for reclamation and repair.

For the purpose of further conservation and economy in the use of materials, the railroads were requested to submit new ideas and suggestions for the benefit of other carriers. A summarized report of suggestions received was recently sent to all roads. This report will be supplemented as additional items are received.

Regional Meetings

Several meetings of regional purchasing and stores groups were held during the year and were well attended. Preference and limitation orders, issued by the War Production Board, were considered. Exchange of materials has been advocated through correspondence and circulars to the member roads, and this subject has also been directed to the particular attention of the regional chairmen. The General committee suggested that group meetings be held whenever the importance of any subject justifies, keeping in mind that all members of the supply departments are extremely busy.

Cars for Company Material

A special joint committee, consisting of representatives of the Purchases and Stores division, the Operating-Transportation division and the Car Service division, was appointed by the vice president of the Association to make recommendations for further conserving and expediting the handling of cars containing company material. The recommendations of this committee were submitted to the members and are included in one of the committee reports.

This joint committee will continue to give this subject consideration. Previous reports of committees have stressed the importance of prompt handling of company material cars but further efforts are imperative, and any pertinent suggestions for improvement should be transmitted to the committee immediately.

Report on Reclamation

By T. J. Hegeman, Chairman*

Never before in the history of the country has the reclamation of materials been so vital to the conservation of national resources. Because the shortage of essential materials will become more acute from day to day, reclamation of materials must be extended to the utmost. It will be necessary to reclaim many items that were previously scrapped because it costs too much to reclaim them. With some materials it is now a case of reclaiming or doing without. It will be necessary to revise limits of wear, consistent with safety, on different items to keep them in service longer. Material must also be conserved so that the country's armed forces can be supplied with the arms and the equipment they need.

Reclamation Committees

Every railroad should have a standing reclamation committee and the work should be directed by a general reclamation committee, consisting of representatives of the operating, maintenance of way, maintenance of equipment and purchases and stores departments, with one of their number serving as general chairman. Similar committees, reporting to the general committee, should be organized on each division. These committees should spur interest in conservation and reclamation by the exchange of ideas and by inviting employees for suggestions.

Many items available in normal times cannot now be obtained at any price because the ingredients are no longer available or because the government has commandeered the entire available supply. Bristle for most of the paint brushes comes ordinarily from China. With this supply shut off, it is necessary to use substitutes. These substitutes will not be as good as the materials we usually get and will often be much higher in cost. Brushes should be issued only to regularly-assigned painters and the best approved methods for taking care of used brushes should be followed rigorously to get the maximum life out of them.

Rubber goods will be practically unattainable except for absolute necessities. Consideration must, therefore, be given to conserving the supply in every way. Long lengths of hose should be recoupled at the break and kept in service, and every other known economy practiced to reduce consumption. Every pound of scrap rubber should be saved and marketed so it can be kept in circulation. Many railroads have been furnishing scrap rubber air and steam hose to fruit growers and others for irrigation purposes. The railroads should no longer supply this material unless a proper priority is furnished. Reels and carts should be used wherever possible to avoid dragging hose, and it should not be stored in hot, dry locations or left exposed to the sun. Each kind of hose should be used only for the purpose for which it is specified. Oil should be removed immediately to prevent blisters and rot. Sheet rubber should be cut in such a way as to get the most out of each sheet with the minimum waste. Substitutes should be used where practical. Reclaiming rubber goods by vulcanizing should be followed and extended. Air, signal and steam hose are often damaged by not being uncoupled. The Mechanical division has developed a method for reclaiming air brake and signal hose by inspecting each hose for sections that can be salvaged for use in splicing hose with a malleable joiner.

Canvas duck is now practically unavailable and other materials should be substituted wherever possible and the duck now in service patched so that it can be kept in service. Cab curtains should be carefully taken down and turned over to the storekeeper so they can be re-used when needed.

Steel Shapes and Castings

No steel sheets, bars, shapes or material of any kind should be scrapped that can be reclaimed and made ready for further use. Consideration should be given to saving scrap axles for making forging billets. Steel castings, bolsters, couplers, etc., should be welded so that the materials can be kept in service. Further welding of coupler bodies is possible, particularly in the front wall of the coupler when broken, if the work is properly performed and the coupler properly annealed after welding. The Mechanical division had disapproved this procedure but the

* Superintendent Scrap and Reclamation, Chicago, Burlington & Quincy.

probability that new steel will not be available urges its further consideration.

For the same reason, consideration should be given to welding cracks or fractures in knuckles and knuckle locks. Likewise, standards limiting the welding of cast steel and forged steel center plates to 40 per cent of the area could be extended to 80 per cent. On spring planks, the present limit is 40 per cent of the area. This could be extended to 100 per cent. On truck bolsters, the present limit of 40 per cent of the area should be extended to 66⅔ per cent. If it is not considered good practice to make these changes permanent, they should be authorized for the duration of the emergency. Consideration should also be given to making welding rules mandatory on all railroads during the present emergency.

Lumber

All second hand lumber should be examined carefully and as much of it as possible reclaimed and used again. Lumber from inbound shipments, such as car stakes, blocking, etc., should be removed at the time of unloading and held for re-use. It is difficult to obtain lumber at this time, and there has been a considerable increase in price. The railroads can do much to conserve new lumber by reclaiming old lumber from dismantled equipment, bridges, buildings, etc. Bracing lumber and chock blocks removed from cars at freight houses should be salvaged and re-used.

Some railroads have established resaw plants to convert salvaged lumber, which is unfit for the original purpose, to sizes that can be used for other purposes. One road built a lumber reclamation mill with equipment obtained from various shops where it was not needed, the equipment consisting of a second hand saw mill, cutoff saw, band saw and planer. The total cost was $1500. This plant reclaims lumber from bridge timbers, piling, bridge ties and other lumber returned from abandoned branch lines and from regular maintenance programs. The first nine months' operation produced a net saving of $3,114. The more important items produced were lumber for special crossings, freight loading platforms, right-of-way line markers, standard explosive blocking, merchandise blocking, shims, building lumber, posts for hand rails on bridges and stock yard posts.

Track Materials, Paper and Burlap

Consideration should be given to returning frog and switch materials to the manufacturers so that they can salvage as much as possible. In the maintenance of way and signal departments, every approved reclamation practice should be continued and extended. Rails, frogs and switches should be welded, angle bars reformed, etc., so that railroad maintenance can be performed with the minimum demand for new materials. Consideration should be given to the economy of repairing track tools. It is now advisable to weld ends on both ends of clay picks, welding claws on claw bars, etc. Many items of signal material can be repaired and reclaimed.

Every railroad should issue instructions that every pound of scrap paper, including car lining paper, burlap sacks, wrapping and rope from inbound shipments, should be salvaged. Many railroads object to saving waste paper because of the fire hazard. Each railroad should, therefore, market the materials in the manner that will suit it best. If it is not desired to ship the scrap paper, local sales should be instituted.

One railroad recovers paper from empty box cars, and all paper, including cardboard shipping boxes, is recovered from stores and commissary departments, also from freight houses. Paper cups and towels are recovered from passenger equipment and placed in cloth bags by porters in charge of cars. Through this arrangement one large terminal recovers approximately 60,000 lb. of scrap paper per month. One railroad has made each agent responsible for the waste paper in his territory and has authorized him to sell it locally.

Action Pending

The committee has pending for action by the Mechanical and Engineering divisions, proposals to broaden the tolerances in repairing journal boxes, coupler yokes, cast steel truck sides, truck center pins, coupler knuckle pins and journal box wedges. A number of railroads are restoring the contour of the wedges by grinding, milling and machining.

A ruling was made by the Mechanical division that it is not necessary to prescribe wear limits for the thickness of draft keys, the suggestion of the committee being that draft keys may be reclaimed satisfactorily if the maximum wear in width does not exceed ⅜ in. at any one point. The Mechanical division has also been asked to reconsider present AAR rules prohibiting the welding of cracks in the tail pieces of knuckle locks, and to permit the welding of ends of brake beam channels to bring them up to proper length. During the present emergency several railroads have extended the wear limits on track tools. The committee brought up to date the list of recommended reclamation practices in connection with the recovery, repair and reclamation of various items and listed in a loose-leaf book form.

Report on Scrap

By L. L. Studer, Chairman*

The extreme scarcity of scrap for the production of an adequate supply of steel products for the railroads and national defense makes it mandatory to hunt for every pound of railroad scrap and deliver it to scrap markets in the quickest possible manner. It, therefore, becomes necessary to explore fields which have not been considered profitable in an effort to produce an additional tonnage of scrap. Checks should be made of all inbound empty cars at all stations to recover steel bands used for binding purposes, scrap paper, burlap, rope and twine, etc. The collection and sale of rust from steel plates and the screening of floor sweepings in non-ferrous foundries, all offer opportunity to increase the volume of scrap.

* District Storekeeper, Missouri Pacific.

Scrap Sorting and Preparation for Sale is of Vital Importance

The committee also urged that surveys be made of right-of-way grounds and where barbed wire, woven wire fencing, etc., have been used for filling purposes. This class of scrap should be collected and shipped in to scrap yards. Surveys should also be made of shop buildings where belt-driven machinery has been replaced with motor-driven machinery. Fabricated steel used with the belt-driven machinery which is still attached to the roofs of the buildings should be converted into scrap. Inactive stocks of second hand steel bridges and girders, signal materials, railroad crossings, belt-driven machinery, second hand motors, and locomotive and car parts should be constantly investigated, and where some future use of the materials is indefinite, such stocks should be converted into scrap.

Conservation at Scrap Yards

Critical material conditions confronting the railroads require the inspection of every piece of scrap that is received at scrap yards to make certain that none goes to waste. Material can be salvaged which in the past was not economical or feasible to handle. A dump should no longer be tolerated. Any kind or type of metal should be either processed for service on the railroad or shipped as scrap for conversion into new material. Care should be exercised to eliminate material which will not be used within a reasonable period of time. Material that can be recovered and put back into use as is, or reworked or substituted, should be held. Quantities should be consistent with demand. Economy of reclamation should be secondary. Greater consideration must be given to scrap yards as a ready source of supply of materials.

Methods to Reduce Cost

The alligator shear and cutting torch are the most practical and economical types of equipment to be used in preparing the majority of the scrap produced by a railroad and the equipment should be maintained in good condition. Railroads have been progressive in taking advantage of improved shear blades, improved cutting torches, proper tips and controlled pressures in cutting scrap.

In the past, some railroads have not found it economical to prepare their scrap and have sold it unprepared. This is particularly true of uncut structural, wrecked steel cars and sides and floors from cars and tenders. These items are generally prepared with the use of cutting and alligator shear. If these items are converted into malleable, No. 1 heavy melting steel and No. 2 heavy melting steel, the cost might be prohibitive on the basis of existing differentials. If they were prepared with the thought of obtaining the maximum tonnage of useable materials, such as structural shapes, plates, castings, etc., the saving in replacement values of useable materials should be considered when arriving at the net results of preparing the scrap.

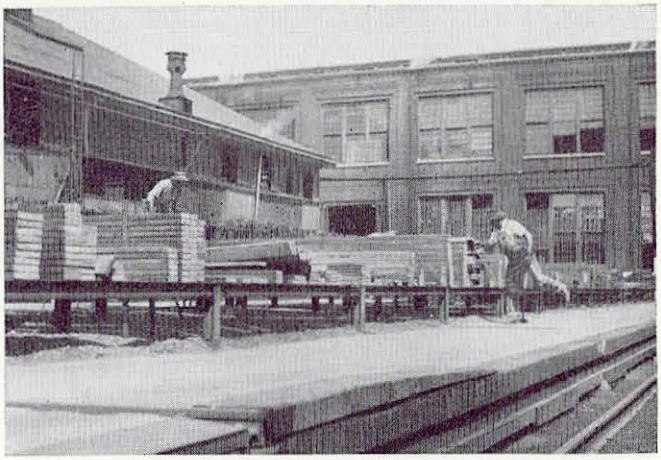
New Uses of Scrap

Large size channels from cars can be used for reinforcing center sills; smaller size channels as crossbearers; the cover plates as reinforcements for the draft and center sills. Miscellaneous angles can be used as brackets, reinforcements, carrier irons, etc.; the thinner plates for patching cars and repairing locomotive ash pans. It has been found economical to straighten plates from boilers, locomotive cisterns and miscellaneous tanks for shim plates, patch plates, etc.

At this time, many plants engaged in defense work require cutting gases and equipment. To insure a sufficient supply for all, every effort should be exercised to check the useage and return the containers.

Dismantling

One road uses an attachment on an old punch press to push out the plugs and bushings on angle and cutout cocks. The punch has two V-shaped bottom backs to fit the hex ends of the cutout cock. The plunger has a pad to push the removable punch through the cock. The pein of a ball pein hammer is squared slightly smaller than the square on the top of the cutout cock plug. The hammer is set on the plug and the machine started. The plunger pushes the plug out of the handle and through the bottom cap, stripping the threads on the cap. The stroke of the shear should be long enough to push out the bushing. The steel pin in the plug can be removed with a small punch and hand hammer. This tool has greatly increased production in stripping angle and cutout cocks.



No More Rail for Material Foundations

One road has developed a method of reclaiming scrap zinc from exhausted dry cell batteries. The method involves the use of an oil or gas-fired furnace. Three or four cast iron pipes or tubes run through the furnace at an angle. The dry cell batteries are pushed through the tubes at a speed just fast enough to burn off the outside cardboard wrappings, consume the asphaltum used to cement the cardboard to the zinc and then to melt the zinc shell. The battery should be pushed out of the tube before the paper holding the inside of the battery can be burned off. This furnace, with two men, handles 600 batteries per hour and produces approximately 40 lb. of zinc.

One road uses a rattler made of scrap material to remove the glass and bakelite filling from scrap electric light bases. The rattler also pulverizes the glass, freeing the small wires running through the base to the lamp bulb.

Pricing and Inventories

By F. J. McNulty, Chairman*

Special attention was given to the use of tabulating machines in inventory work. While present conditions made it impractical to devote the time necessary to make the detailed study which the question warrants, the preliminary study showed that a central accounting bureau should be established to obtain the full benefit from these machines. The committee expects to develop data on the economies to be realized by listing the actual inventories in stock books, instead of on inventory sheets, cards, etc.

Some railroads have not adopted the Divisions recommended practice of pricing, but operate under centralized accounting; while others still maintain separate division, district or other regional accounting organizations. Centralized accounting affords the same accounting records as division, district or regional accounting, and permits allocation of work, concentration of calculator work, concentration of pricing, reduction in price records and possible reduction in forces.

Material Stock Report

Past experience has proved that the material stock report should be kept alive and active. Railroad officers, as well as officers of the Division, are constantly referring to it and find it of great value. The value of unapplied materials on hand on 118 roads submitting stock reports to the committee as of June 30, 1941, increased 12.3 per cent, or $40,466,787, over June 30, 1940. The total average monthly disbursements increased

* Assistant to General Storekeeper, Boston & Maine.

13.9 per cent, or $11,514,221. Notwithstanding this increase, the reporting railroads operated with 117 days' supply on hand, as compared with 119 days in 1940. Consolidated figures for the semi-annual period ending June 30, 1941 are summarized in a table.

Report on Manufacturing

By K. P. Guin, Chairman*

The committee concurred with reports of previous committees and concluded that the effective control and service on railroad shop-manufactured materials may best be brought about, when the volume justifies, by having a separate shop for the manufacture of materials only on orders from the store department. So long as it is attempted to get shop order material from a shop that is being crowded for output of locomotives and cars, the results are not satisfactory.

It is possible that the cost, in some cases, will be greater than the cost of material purchased in the open market. However, at this time the committee does not believe that price should be the deciding factor. It is becoming more difficult to obtain finished products without a high priority rating. Therefore, it was suggested that when the raw material is on hand or can be obtained, railroad facilities be used to capacity by working second and third shifts to finish or manufacture the needed material.

Report on Fuel Buying

By C. H. Hoinville, Chairman†

The committee has continued to follow the activities of the U. S. Bituminous Coal Division in its administration of the Bituminous Coal Act of 1937, which was to have expired on April 26, 1941, but was extended for two years by an act of Congress, signed by the President on April 12, 1941. In April, 1941, the Secretary of the Interior published preliminary statistics compiled by the Bituminous Coal Division indicating that the average cost of producing coal in 1940 had decreased approximately 18 cents per ton for the United States under the average cost upon which the Division based existing minimum prices.

After the new wage agreement about May 1, 1941, which changed the cost more than 2 cents per ton, the Bituminous Coal Division was required to institute hearings which continued from May 25 to September 16, 1941. The examiner submitted his findings in October, 1941, and reported that coal costs (1940 costs adjusted to reflect changes for 1941) had increased 8 cents over those on which the Division had based the previous minimum prices. In January, 1942, the acting director, issued findings of fact and conclusions and with the wage advance of May, 1941, determined the new costs which, in the main, completely offset Secretary Ickes' reported decreased production cost of 1940. On April 13, 1942, Secretary Ickes affirmed the acting director's cost determination as follows:

Minimum Price Area	Average Cost of Production 1941* Per Ton	1942† Per Ton
1	$2.1284	$2.2503
2	1.7622	1.7725
3	2.4382	2.7500
4	3.6080	3.8360
5	2.0392	2.0739
6	2.7389	2.8367
7	2.1691	2.1270
9	1.4851	1.5034
10	3.2247	3.5211
United States	$2.0884	$2.1947

* 1936 costs adjusted, which were used as bases for present minimum prices.
† 1940 costs adjusted to reflect changes in 1941.

Coal Costs Higher

Hearings on the establishment of new minimum prices started on May 5, 1942, and were concluded on June 25, 1942. The committee continued to follow these activities, and the legal staff of the Association was a party to the proceedings. While the hearings were in progress, the Bituminous Coal Division instituted hearings on maximum prices, which continued for many weeks with several interruptions, but, on April 29, 1942, the Office of Price Administration announced maximum prices on railroad and other bituminous coal, to become effective May 18, 1942. The OPA maximum prices set a schedule on railroad fuel at various amounts by districts above the April 1, 1942 minimum prices, ranging from 25 to 60 cents a ton.

Because of the wage increase of 1941, most of the railroads have paid increased fuel prices. While the increases varied in different districts and were not allowed all railroads in the same district, the general average increase paid by the railroads is between 15 and 20 cents a ton, and will add approximately 15 million dollars per annum to their fuel cost. With these increases, the railroads are now paying prices generally above the old minimum prices and likewise above the new minimum costs.

Early this year the Secretary of the Interior, through the acting director of Solid Fuels Co-ordination, formed a committee of coal producers and consumers, of which President Pelley of the AAR was a member, and a Buy Coal Now Campaign was started to build up stock piles to prevent a coal and transportation shortage. Storage piles are gaining in the volume accumulated.

Oil

With oil, the committee has chiefly been endeavoring to obtain fuel oil for the railroads in the Mid-Continent territory. It met with the Petroleum Industry Committee, calling attention to specific cases where fuel oil, needed by the railroads in that district, had been diverted to Eastern points, and received promises of assistance. Consumption of fuel oil has increased 25 to 31 per cent over 1941, and while no statistics have been compiled, the results of the committee's work will be shown in obtaining the necessary fuel oil to keep the railroads operating at full efficiency. A survey was made of the railroads in districts 1 to 5, covering estimated requirements, consumption, storage capacity, quantity on hand and sources of supply of heavy fuel oil for locomotive and shop use and Diesel fuel oil. Railroad fuel statistics compiled by the committee from reports of the ICC are given partially in a table.

Purchases of Fuel—Class I Roads*

	Coal		Fuel Oil		Diesel Oil	
	Purchased, Tons	Dollars (at Mines) Per Ton	Purchased, Bbl.	Cents Per Bbl.	Purchased, Gal.	Cents Per Gal.
1937	95,444,711	1.89	68,685,224	96	25,470,248	4.39
1938	77,426,927	1.92	57,137,618	91	34,842,982	4.44
1939	85,132,845	1.91	61,073,965	83	48,754,423	4.29
1940	91,731,870	1.88	65,197,799	83	81,195,443	4.37
1941	107,583,678	2.02	80,725,082	90	119,186,761	4.45

* From reports of the ICC

Report on Purchasing Methods

By W. R. H. Mau, Chairman*

The committee decided that a universal numbering system for material is difficult in the absence of common standards. If each railroad will proceed with the numerical designation of its various items of material, based on the AAR classification and its own stock records, it will realize the benefits that have already been outlined.

It was also unable to develop a satisfactory basis for measuring the work done by purchasing departments. While certain common activities might be valued on a man-hour basis, other factors nullify the value of such a determination. The primary obstacle is the variation in the organization of the purchasing office and its activities. On one road the purchasing and stores offices are joint and many activities overlap, while on another, the two are distinct and widely separated. Another railroad's

* General Storekeeper, St. Louis-San Francisco.
† Fuel Buyer, Atchison, Topeka & Santa Fe.

* Purchasing Agent, International-Great Northern.

purchasing office may procure and distribute fuel, ties, rail, equipment and miscellaneous material or one or more of these items; another confines its activities to a different group. At present, no purchasing organization is functioning normally or in the smoothly efficient manner of normal times.

Price Extras

The opportunity to economize in buying by studying quantity price differentials deserves careful attention. It is a general practice for the purchasing agent to keep the stores department informed of new items affected so that stock records can be marked properly and material ordered judiciously. The committee emphasizes the importance of a general observance of this practice. The purchasing agent should scrutinize each requisition carefully, as is now done on many roads, directing the attention of the originator of the requisition to any further savings attainable. The purchasing agent, when asking a vendor for prices, should solicit information about quantity differentials. A list of 60 new items subject to quantity differentials was submitted.

In the report for the year 1941, it was suggested that a post card be used as a satisfactory means of tracing the delivery of material. This practice has been extended by one road. The inquiry card forwarded to the vendor bears a return address and ample space for information concerning delivery. Replies, when received, are sent to the storekeeper to be marked in his records. If it is necessary to follow up the delivery promise, the card can be returned to the purchasing agent for further attention.

Stationery and Printing

By W. W. Griswold, Chairman*

Expenditures made for stationery and printing by the Class I railroads for several years were reported.

1926 .....$28,418,710	1931 .....$18,500,000	1936 .....$14,011,000
1927 26,840,000	1932 14,400,000	1937 16,431,000
1928 25,638,000	1933 11,628,000	1938 12,958,000
1929 25,567,000	1934 12,884,000	1939 13,915,000
1930 20,300,000	1935 12,334,000	1940 14,502,000

Enormous demands of the government for many grades of paper, printing and miscellaneous stationery and the increasing restrictions covering many items and the difficulty in securing them requires the fullest co-operation of every railroad employee in the conservation of the stationery used by the railroads.

Large savings can be made by adopting the recommended 7½ in. by 9½ in. size for paper and printed forms. A saving of 23 per cent is possible on plain paper, and proportionate savings can be made on printed letterheads, second sheets, mimeograph paper, carbon paper and envelopes. The half size sheet, 4¾ in. by 7½ in., should also be used more generally for short communications, second sheets, scratch tabs and telegram blanks.

Because of the difficulty in obtaining low sulphite paper with a breaking strength of 20 lb. to the sq. in. for waybills, the Accounting division recommended correcting the rule. While some printers can still secure low sulphite with a 20 point breaking strength, the better grade of stock should be used wherever possible. For printed forms other than interline waybills, low sulphite is still recommended, but a lower breaking strength than 16 point will be acceptable. Some printers are offering 10 and 11 point stock which should meet requirements satisfactorily.

It is also recommended, in the interest of conservation, that the railroads consider the extended use of 14 and 16 lb. railroad manila and 14 lb. hard sized newsprint, in place of 16 lb. white bond. It is now easier to secure delivery of ground wood papers than 16 lb. white sulphite bond.

Standardization Committee

A review of the 1940 report was recommended and standardization committees urged to review all printed forms and statements, discontinue unnecessary items, effect consolidations, eliminate space in forms, prepare minimum number of copies and adopt minimum sizes, weights and grades of paper. As all sales of typewriters, both new and used, have been frozen by the government, all offices should be instructed to take proper care of typewriters, and all other office devices, so that this equipment can be made to last as long as possible.

Conservation

In the interest of conservation, binders should be handled with care and reclaimed when the contents are no longer needed and all surplus should be returned to stationery stores. Carbon paper is daily becoming more difficult to obtain. A No. 10 size large envelope should not be used when a No. 6¼ small size will serve the purpose. Consolidating mail saves envelopes and postage. Brass paper fasteners, paper clips and pins, being no longer plentiful, should be used with care, reclaimed for re-use and the surplus returned to the stationery store. All file boxes should be salvaged, the breaks repaired with gummed tape and all surplus returned. Every effort should be made to reduce the distribution of time tables. They should be printed in one color where possible. Stamp pads should be cleaned and re-inked to secure maximum service. Rubber stamps should be ordered only when absolutely necessary and should be cleaned with a typewriter brush.

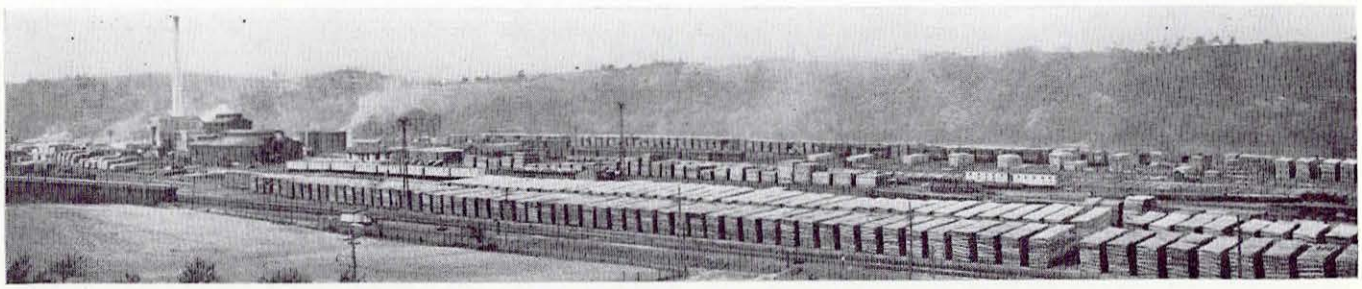
* Stationer, Chicago, Rock Island & Pacific

Report on Material Handling

By J. W. Wade, Chairman*

The committee submitted sketches of shop-manufactured devices to facilitate the handling and storage of materials. One road has a storage rack and shearing device for shim steel which is constructed of ¼ in. scrap and ⅜ in. angle iron. The upper section carries reserve stock, while the lower section, which is made from four scrap gasoline storage tanks with a section removed and two ¼ in. partitions welded in place, provides storage for working stock. In front of the rack are running rails made from old angles and a portable shear mounted on a four-wheel carriage which permits the shear to be moved opposite the stock to be cut. The rails are riveted to the rack. A

* General Storekeeper, Norfolk & Western.



Crossties Which Must be Stored for Seasoning Are Also Growing Scarcer

In the Lumber Yard of the Delaware and Hudson

guard on each side of the shear prevents steel from flying and injuring the operator. The shear will cut a plate up to ½ in. thick. In the bottom of each container, a small quantity of light oil is maintained to prevent corrosion. The steel rails are revolved periodically in this oil bath.

A New Oil Car

Another road has a four-compartment oil car for distributing oil to points where full tank car lots cannot be handled. It eliminates barreling oil at the general storehouse for shipment to small outlying storehouses and avoids extra handling of drums.

The car has four 2,000 gal. capacity tanks and is equipped for car, valve, kerosene and fuel oil. It is billed to a particular store as a carload lot after being filled at the general storehouse, and the store then fills its storage tanks with the oils carried in the car. If the storage tanks at a store do not hold the entire contents of the car, it is reconsigned to another store where the balance is unloaded. This car is equipped with loading domes, unloading valves and steam coils. The storehouses on line where this car operates are piped to take the oil direct from the car. This tank is particularly helpful on line of road where only one or two men are employed at a store. It also eliminates the necessity for maintaining a pool of drums which must be kept in repair and frequently replaced to offset those worn out and damaged in service.

A Jig for Couplers

A shop-made truck for handling couplers with knuckles attached was developed by one railroad for handling couplers in and out of storage. The wheels of the truck, which are rubber tired, are mounted on a solid bar axle 1½ in. square. In front of this axle is a 2 in. by 6 in. angle to form the lip and it is welded to a 3½ in angle which is welded to the axle. A 3 in. by 4 in. angle was cut out and welded to the 3½ in. angle at the sides to form the wheel guards. This prevents the coupler from slipping off the truck while it is being moved. The guard pieces over the wheels also prevent the coupler from sliding against them and interfering with the movement. On the handle, at the height of the coupler shank, is a plate against which the shank rests, and at the top is a movable hook which fits into the hole in the end of the coupler and prevents it from sliding sideways. In loading the coupler, the truck is pushed to it from the knuckle side, tipped forward and the hook inserted into the end of the unit. Pulling the handle back then loads the coupler in safety. Couplers can also be unloaded safely as the coupler cannot drop forward off the truck until the hook has been released.

Portable Bins

A portable bin for issuing small articles at point of use was designed for use at roundhouses on line of road. It is attached to a skid which is moved to a prominent place in the shop. Employees may obtain small bolts, nuts, washers and other fast-moving stock from the bin, thus eliminating many trips to the storehouse for this material.

The report also included sketches of a drum with a side opening for chain storage; a safety platform or running board for trucks in loading and unloading cars; a shipping container for locomotive headlights; a skid for handling material; and a gangplank for use where the distance between tracks and the unloading platform requires a larger than conventional size.

One road recommended safety clamps for handling steel plates. Some railroads are releasing all rail and plates on concrete pedestals for material storage, replacing them with suitable concrete platforms where needed for permanent storage. These materials, while scrap, are badly needed for the war effort. In order to expedite salvaging of this material, some roads are using scrap lumber as a temporary measure to replace the metal since it is impossible to erect permanent concrete platforms on short notice.

Report on Standardization

By L. E. Field, Chairman*

The committee reported that uniform specifications recommended by the Division for steel plates, shapes and bars for the purpose of simplifying standards was agreed upon by the subcommittee of the Special Joint Committee on Simplification and Standardization and published recently as supplements to AAR specifications, and that their acceptance will establish the principle of uniform materials for railroad use. The Division is also waiting action by other divisions of the A.A.R. on recommendations relating to boiler studs, brake pins and bushings, steam locomotive piston and valve rings and ring grooves, door closers for cars, brake clubs and jack handles.

New Work in Simplification

New work of the committee in developing uniform standards embraces mild steel bars, cotton duck, wire and cable, cellar pin keys, abrasives and abrasive cloth and paper, replies being received from 36 railroads operating 140,960 miles of road. Work was continued on the revision of simplified lists of staybolts, wood screws, files and rasps and hacksaw blades to keep in step with developments brought about by OPM and WPB orders. The study of steam-driven air compressor rings, which was begun last year, was completed so far as practicable at this time. The simplified list on staybolts was revised on the basis of 1940-1941 inquiries and extended to cover sizes of radial and flexible staybolts. This study shows some differences in threads and in body sizes of radial staybolts on 38 railroads.

505 Sizes of Staybolts

The committee recommended the adoption of a standard form of thread for all staybolts by the Mechanical division, and that the Mechanical division be asked to set up a standard body diameter for each thread diameter for reduced body staybolts. The committee recommended reducing bottom staybolts to 37 sizes, taper bolts to 43 sizes, straight end bolts to 59 sizes and type Y flexible bolts to 71 sizes. The revised list of mild steel bars and free threading steel bars, as reported by 36 railroads, reduces the number from 505 sizes to 238 sizes. Railroads were urged to use approved sizes to enable mills to produce maximum tonnage.

A study of comparative sales of steam-driven air compressor rings by four manufacturers indicated that 90 per cent or more of the present demand for rings is covered by not over 200 of the approximately 500 sizes now manufactured in each of two styles. As shop limits on reboring of air compressors and renewal of pistons will be affected, it was recommended that the subject be referred to the Mechanical division.

Replies from railroads indicate great variance in the terminology in ordering insulated wire and cable. Some roads have complete specifications covering various types of insulated wire

* Supervisor of Material Standards, Boston & Maine

and cable, others only the barest possible description. Because of this variance and the large amount of detail involved in tabulating the replies and changing specifications created by the rubber and tin shortage, the committee could not indicate the number of the various types, sizes and kinds of insulated wire and cable now used.

Replies from 28 roads reporting cellar box pins showed that 17 railroads are using this type of cellar pin in 73 different sizes of four diameters. It was recommended that the Mechanical division adopt five sizes, all ¾ in. in diam., in lengths of 12, 14, 16, 18 and 20 in. from end to eye.

The wood screw list was revised to eliminate sizes listed by OPM orders of June 24, 1941. The committee also eliminated all odd numbered sizes of wood screws. As there is only about 0.013-in. difference in diameter as compared to the next larger or smaller even-numbered size, no difficulty should be experienced from this elimination. The committee recommended 39 sizes of flat head brass screws, 29 sizes of round head and 21 sizes of oval head screws, and recommended that they be used only where iron screws positively cannot be used. It recommended 70 sizes of flat head iron wood screws and 24 sizes of round head screws. The OPM survey of wood screw sizes indicated that approximately 57 per cent of the types and sizes manufactured accounted for only 4 per cent of the total production.

The hack saw blade list was revised to eliminate sizes no longer manufactured by order of the OPM August 25, 1941. The OPM order shows there were 239 sizes and types of hack saw blades listed and manufactured, with an additional 150 sizes and shapes manufactured but not regularly listed. The list still shows 152 sizes and types manufactured, while the committee advocated 7 sizes of standard blades and 25 sizes of high speed blades. These reductions will eliminate 8 gages of steel sheets in numerous sizes ordinarily run by steel mills in short runs.

The standard file list was revised by eliminating sizes discontinued by the OPM order of August 1, 1941. The 46 sizes discontinued by request of OPM represented only 1 per cent of the sales of the industry, and it is estimated that these eliminations allow a possible increased production of 5 per cent from the same machinery. The elimination of these sizes makes possible a reduction of 25 shapes of steel previously required for files. Most of the sizes were short runs, as the tonnage was small. Of 2,200 sizes and kinds of Swiss pattern files, 268 were eliminated, again resulting in the elimination of 25 sizes and shapes of steel. The committee proposed 69 sizes of files for railroad use.

The committees, working with a committee of the Mechanical division on the conservation of rubber and tin, prepared a comprehensive list of rubber goods used by railroads, indicating items that may be discontinued or for which substitutes are available, and also indicating methods by which the present supply of rubber goods can be conserved. The same committee recommended the elimination of various articles made from tin plate. With solder and bearing metals, specifications have been prepared by the Mechanical division reducing the tin content to a minimum.

A joint committee of the Mechanical, Signal, Engineering and Purchasing and Stores divisions on standardizations and simplification of materials met at Chicago in May, and appointed subcommittees to review specifications for various materials used by railroads and to adopt one nationally-known specification for each item for use during the war. The emergency specifications accepted by these sub-committees were published recently. The committee urged that means be developed to speed action on matters requiring joint action by two or more divisions of the Association, and listed uncompleted subjects which should be continued by the committee.

Exchanging Materials

By C. B. Hall, Chairman*

While previous reports on the exchange of material between railroads were quite complete, the existing material situation calls for a revival of the subject. Exchange of materials should be undertaken in the interest of avoiding dormant stocks of materials that other railroads can use, and thus reduce the purchases of raw materials vitally needed in defense work.

The committee recommends that Class I roads resume immediately the issuance and the interchange of surplus material lists annually with all connecting lines, such lists to be supplemented each six months with any changes or additions. These lists should be prepared on the basis of the material classification of the Association, and should include items which are usable by other railroads and should not include surplus items of wholly local design or character. Manufacturers of special items should be contacted and the goods offered to them, or the manufacturers asked if other railroad companies or other industries are interested in their purchase.

The committee is of the opinion that usable parts of modern types of cars which are wrecked on foreign lines should be taken apart, the parts salvaged and reported for disposition to the line owning the car. The condition where one railroad is in need of emergency material which cannot be procured quickly from manufacturers or sellers is prevalent. Such railroads should contact other railroads in the area to determine if the materials can be obtained from them.

* Manager of Stores, Pennsylvania.

Terminal Storekeeping

By R. H. Bruckert, Chairman*

At some points terminal companies still carry separate stocks of common materials, such as journal brass, oils (including fuel oil), greases, etc. One standard of common materials at point terminals should be adopted as a slogan. In instances it has been found that material can be supplied by one of the tenant companies for all users at a price satisfactory to all. In the interest of reducing the variety of stocks and inventories, the supplying carrier should alter its charges for overhead if by so doing an arrangement mutually satisfactory to all lines can be adopted.

The use of combination requisition-order forms is quite general. All of the material owned by terminal companies is, as a rule, located in one area in a city, or at least not beyond the immediate confines of a given city. Under this circumstance, terminal companies are not confronted with the difficulties in redistributing material of trunk lines. Terminal companies also have a more fixed source of supply as many items of material are obtained regularly from tenant companies. The combination requisition-order method can, therefore, be applied most effectively to the requirements of terminal companies. Where that plan is not in use by terminal companies, its adoption is recommended. Its feasibility can be proven by an initial application to the requirements supplied by tenant lines.

Diesel Locomotive Material

Plans and methods for the purchase and storage of diesel locomotive material are still in a formative stage, but several suggestions were made. Terminal storekeepers should be familiar with the nearest location of the manufacturer's storage point for repair parts. They should obtain an understanding of the parts so stocked in order to keep carrier stocks at a minimum and consider requests of the manufacturer to create additional manufacturers' storage points in various areas of the country. Carriers should advise terminal companies of the extent to which terminal companies should carry higher priced repair parts at terminal stores or jointly review the stocks of material carried on hand by terminal companies to establish assurance with all concerned that the important items will be available when needed.

Close scrutiny of maximum prices, delivery and consumption of all diesel materials should prevail.

Terminal companies have two sources of supply, the tenant lines and the manufacturer or jobber. Manufacturers' and jobbers' prices should always be checked with the owner lines' prices and purchases made accordingly. One terminal company is known to have informed a manufacturer that it was not enjoying the same low price for certain materials as given one of

* Storekeeper, Kentucky & Indiana Terminal.

the owning lines, even though the material was used entirely on equipment belonging to the owner line in question, and the price was adjusted to the satisfaction of the terminal company.

Reports indicate that all terminal points are not giving fire prevention the consideration it deserves. All terminals should be properly protected with necessary hose, fire plugs and other equipment. Adequate fire protection is a form of conservation to be stressed especially at this time. Fire prevention representatives of tenant lines should include terminals in their inspections.

The use of trucks is a most effective means for avoiding needless detention of freight cars in terminals and, at the same time, speed up the service, from the standpoint of shop and store operation. An analysis of terminal stores, receipts and shipments should be made by tenant lines to determine the nature and weight of the lading of cars since a study of this kind will reveal instances in which trucks can be used effectively. If a truck cannot be provided, a pick-up and delivery service by an outside agency should be considered.

Report on Handling Cars

By J. T. Kelly, Chairman*

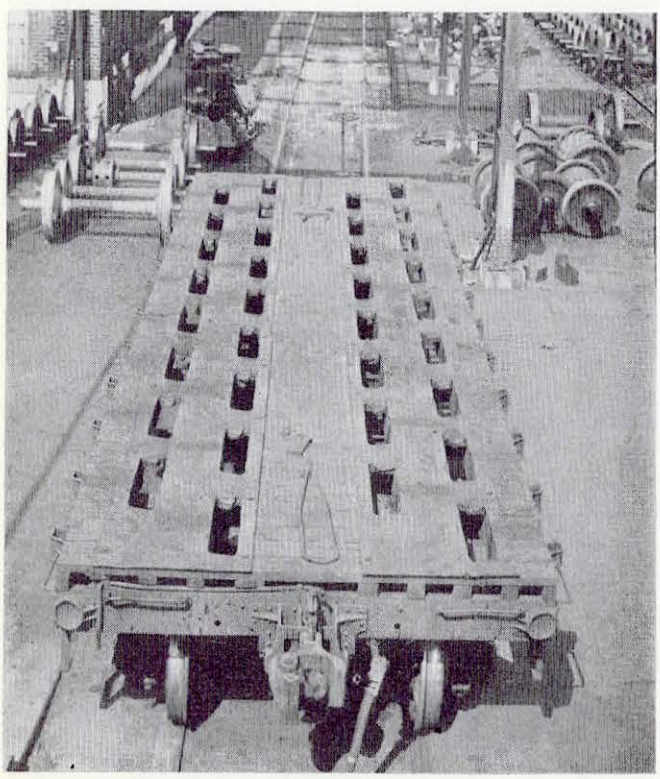
Abnormal conditions make it necessary for all railroad workers to insure that rolling stock is used to its full capacity. All departments that use freight equipment for company materials must perform their work so that only equipment is used that is not required for commercial shipments and will not cause commercial shipments to be delayed or loaded in equipment which might cause damage to the lading.

Pooling Company Material Cars

The present committee pointed out that the education of all departments using freight cars for company materials is essential to get capacity loads in all cars, though it may be necessary to reduce the number of scheduled cars being loaded; to increase the use of automotive equipment to eliminate freight house cars for company and commercial shipments, and to pool all company material non-revenue cars, as this will avoid having empty non-revenue cars at points where they would not be needed when other points might be using revenue cars. The distribution can be handled by the transportation department in the same way as revenue cars.

In addition, material for jobs on the line should not be shipped in advance of the time needed, and all material should be assembled, to reduce the number of cars required. Ample storage facilities for locomotive fuel and diesel oils will avoid delays to tank cars. Shipping dates on oils, engine sand and other bulky materials should be arranged so that sufficient storage is available when cars arrive at destination. Full use should be made of cars marked for dismantling when such cars are safe to carry loads.

* General Storekeeper, Chicago, Milwaukee, St. Paul & Pacific.



How the New Haven Ships Mounted Wheels—17 Pairs in One Haul

Eight Point Program

A special joint committee of the Transportation, Operating and Purchases and Stores divisions met in Washington on May 8 to consider the conservation of cars in company material service and recommended the following: Purchases and stores and other departments should co-operate in placing orders and loading cars to obtain direct routing, shortest hauls, capacity loading and the minimum number of outbound shipments. Less-than-carload shipments of company material should either be consolidated or handled through freight houses, as other LCL freight. Company material, other than company fuel, at destination must be placed promptly and unloaded within 24 hours after arrival and coal chutes, coal storage and fuel oil storage tanks should be kept filled to maximum capacity at all times in order to release cars promptly. Consideration should be given to storing coal on the ground and for providing storage facilities for fuel oil. This was interpreted to mean that coal and fuel oils should be unloaded as soon as any carload space is available, also that fuel oil orders should be timed so that space will be available when the car arrives so that it can be unloaded in the 24-hour period.

All departments receiving company material should furnish yardmasters with placement orders for cars of company material in advance to enable them to classify and place cars without unnecessary switching and detention at destination. Empty cars for loading company material should not be ordered until the materials are ready for shipment. Billing should be furnished promptly to avoid delay and unnecessary switching. At transfers, freight sheds and other places where it is necessary to use rubbish cars, only such equipment as is not suitable for transportation service should be selected. Members were urged to determine immediately if they are obtaining the maximum utilization of non-revenue cars assigned to company material service with a view to reducing the use of revenue cars in company service. Every effort should be made to see that company material is handled with the minimum number of cars and locomotives.

Records of Cars Handled

The committee emphasized that a positive check showing in figures the number of cars being used for company material and the time they are held being loaded or unloaded at each of the storehouses should be set up and followed by the storekeeper or other officer at the particular point, because such a record indicates immediately whether the general suggestions of this report are being followed and are having the desired effect. Form CS-13, summary of revenue cars containing company material, is being revised to indicate shipments of company material in tank cars.

The Mechanical division has definite rules for the condition of freight equipment furnished for loading, and as only cars not suitable for commercial freight should be used for company materials, the cars should be inspected from time to time to insure that they will be in condition to travel to destination for delivery of their contents. This applies particularly to cars assigned to store or other departments.

Wheels, Oil and Special Material

Mounted wheels can be loaded in special arranged well wheel flats on which 48 pairs of mounted wheels can be loaded instead

of the usual 21 or 22 pairs on a regular flat car, thus saving more than 50 per cent of the cars in handling mounted wheels.

Tank cars for handling various kinds of oil can be improvised by using tank car shells which are not acceptable for commercial oils. Storage tanks should be installed at large using points for valve, car, long-time-burner and cleaning oils, and can be supplied from the patrol cars.

Non-revenue cars can be double-decked by applying angle irons longitudinally on each side of the car at a height to clear barrels or other lading stored on the floor and using timber floors and by placing lighter and bulky material on the double deck. Steel strapping should be used wherever possible to increase the capacity loading in lieu of wood blocking in either box or other type cars.

Report on Loss and Damage

By J. H. James, Chairman*

It was developed by the committee that practically all of the specific instances of loss and damage to shipments of company material brought to its attention came within the scope of recommendations and methods previously prescribed for avoiding and correcting such specific conditions. Any measure of improvement can only be attained by greater familiarity with the prescribed methods of prevention.

Considerable annual saving has been possible through the joint effort of the various industries and the railroads in devising improved methods of packing and bracing freight. The Freight Container Bureau of the Association has been active, and it is suggested that in instances where commodities require an unusual type of container or where damage in transit is experienced, the shippers be informed of the free service offered by the carriers.

Double Deck Cars

One road has placed in service a double deck box car for the shipment of company material between stores, which has for its purpose the prevention of damage to the lighter classes of material. The second floor is placed about halfway up the car. The flooring boards are loose and can be stacked in the rear of the car as the lower floor is being loaded with skids and the heavier materials. The flooring boards are brought forward as the car is loaded and the lighter materials placed on the upper floor.

The Freight Claim division has been helpful to the committee, and the joint effort in seeking out and following up new approaches to this troublesome and expensive problem should eventually bring substantial reduction in loss and damage to shipments in transit. The committee directs attention to the bulletin issued by the National Committee on Prevention of Loss and Damage, Freight Claim division, containing recommendations to combat over-and-short freight.

Marking Packages

Prevention lies in extending the practice of marking packages with the shipper's name and address, preceded by the word From; increasing the use of stencils; inducing shippers to erase old marks where second hand packages must be used; encouraging the use of tags of suitable strength and promoting the issuance of accurate and legible bills of lading. Purchasing and stores departments should encourage shippers to follow these recommendations.

The full impact of all-out production for the war program with increasing scarcity of many material items will unquestionably have a tendency to increase loss and damage to shipments by reason of inability of many shippers to procure proper containers and sufficient protective packing materials. The committee, therefore, stresses the importance of becoming thoroughly conversant with the methods already prescribed for correcting and avoiding conditions resulting in loss and damage, and applying vigorously proper measures to prevent its recurrence.

* Purchasing Agent, Pittsburg & Lake Erie.

The Railway Materials Buyer

(*Continued from page 212*)

to insure its long life! This is not a matter that can be postponed for the duration with the thought that loss can be avoided by later applications of the irons to the ties in service. Checking and splitting of ties while seasoning before treatment, particularly beech, birch and maple ties, will cause such serious damage as to destroy critically short timbers, to save a little critically short steel. It would be preferable to give up an equal amount of steel for some other purpose in exchange for these irons.

The purchasing departments of the railroads must now have one or more specialists on the AAR, WPB and OPA procedures and forms to keep posted on government requirements, see that forms are properly filled out, that reports are prepared correctly and filed on time and fundamentally that needs are foreseen sufficiently far in advance to leave time for the many steps that must be taken. The material emergencies which cannot be avoided entirely under present conditions can be reduced to a minimum by careful study of all preference ratings and limitation orders and the forms. Particularly when materials and equipment are under strict rationing, forms must be made out with meticulous care or they will be returned and result in interminable correspondence and delay.

The amount of detail incident to securing materials for authorized construction and for locomotive repair schedules is immense. Orders and schedules must be checked and rechecked frequently. In spite of the most careful scheduling, the delivery of one or more critical items required to complete a bill of material may be interrupted at the last moment by military exigency. Programs have been interrupted, and there have been many narrow escapes from serious shutdowns of shops. Here is where the purchasing department caries its real burden. Unless a new source of supply can be found at once or a substitute devised, the situation must be presented promptly, completely and persuasively to Washington.

Sudden Changes in Practice

Sudden changes in practice to comply with WPB and OPA releases are also necessary to insure a continuing supply of materials vitally necessary to the operation of the railroads. An example is the change now being made in the mechanics of procurement of welding supplies on railroads that have been operating under service and supply contracts.

It is seldom that a day passes that the systematic approach to important work awaiting attention is not interrupted by a telegram from the government or the AAR demanding immediate attention and causing purchasing and stores department and frequently engineering and mechanical department employees to drop all other work and concentrate on a reply. I have secured best results by efforts at full compliance with every release and request from Washington, regardless of what I think about some of them. Time spent in endeavoring to change any except those that result in impossible situations, such as the present ceiling prices on railroad ties, is mostly wasted. They are usually the result of long study and equally long study precedes their amendment. When questionnaires are not directly applicable to railroads or cannot be answered intelligently, they should be returned with advice to that effect.

Looking West From the East End of the Portsmouth Yard, Showing the Eastbound Empty-Car Yard (Left), the Westbound Coal Receiving Yard (Right Center), and the New Westbound Time-Freight Classification Yard (Upper Right)

Large Additions to Yards Which Progress the War Effort

Enlarged and rearranged facilities of the Norfolk & Western at Portsmouth, Ohio, are increasing the efficiency with which the road's many coal and time-freight trains can be handled

THE Norfolk & Western has completed the construction of important additions to its already extensive yard facilities at Portsmouth, Ohio, including among other projects, the extension of the existing eastbound empty-car yard and the construction of a gravity classification yard for westbound merchandise and time freight. As a result of these improvements, the railroad can now handle more efficiently the large number of empty coal cars and time-freight trains that move through this terminal.

Portsmouth is an important terminal on the main line of the N. & W., which extends between tidewater at Norfolk, Va., on the east, and Cincinnati and Columbus, Ohio, on the west. Situated near the western edge of the West Virginia and Virginia coal fields, through which the railway's main line passes, Portsmouth serves as the gateway for the movement of coal traffic westbound and of empty cars returning eastward to the coal fields. It is also an important terminal since the main line divides at Portsmouth, one line extending west to Cincinnati and the other north to Columbus.

Facilities Already Extensive

Prior to the recent improvements, the yard facilities of the N. & W. at Portsmouth were already extensive, including a 31-track gravity classification yard for westbound coal traffic, with a modern double-track hump-retarder layout; twin 300-ton automatic-recording motion-weighing scales; pull-in tracks with power-operated switch connections; a large flat yard for handling eastbound empty coal cars; westbound and eastbound time-

freight yards; extensive engine-servicing and repair facilities, including two large enginehouses; and complete facilities for repairing freight cars. All of these facilities are located within an area about four miles long on the north bank of the Ohio river. The westbound main line passes along the north side of the yard while the eastbound main track extends along the south side.

Facilities on the north side of the area included the westbound coal receiving yard at the east end, which contained 20 tracks, the westbound coal classification yard at the west end, and a flat six-track westbound time-freight yard, located between the coal classification yard and the westbound main line. The eastbound empty-car yard and a small group of tracks for handling eastbound time freight were located along the southerly side of the terminal area. The engine terminal and the locomotive and car repair facilities occupied a longitudinal strip of land between the westbound and eastbound components of the yard.

The railroad was prompted to extend the eastbound empty car yard by several conditions. The yard was not long enough to permit trains to be pulled into it without doubling, and the necessity for stopping them blocked grade crossings west of the yard. Furthermore, additional storage capacity was needed for empty coal cars moving eastward to the coal fields, as these cars accumulate over the week ends when the mines close down. The lack of sufficient trackage in the eastbound empty car yard to accommodate these cars resulted in a number of operating disadvantages.

Location of Extension

Originally, the eastbound empty car yard terminated at its easterly end in the vicinity of the two enginehouses. In the expansion of this yard, the tracks were extended east from a point opposite the most easterly enginehouse. The extended portion of the yard has a maximum length of about 4,000 ft., and includes, in addition to the yard tracks, eastbound and westbound running tracks for locomotives along the north side. At the east end, the extended yard tracks connect into two converging ladder tracks, with No. 10 turnouts in No. 8 ladders.

The new section of the yard contains 11.5 miles of track, giving it an additional capacity of 1,373 cars and making it possible for the longest trains of empties to be drawn into the yard without doubling. As a necessary step in the expansion, the eastbound main line was relocated along the southerly side of the yard extension.

This project was started in December, 1940, and completed in May, 1941. The grading, which amounted to only 12,000 cu. yd., was extremely light, considering the size of the extension, and no unusual difficulties were encountered in carrying out the work.

Westbound Time-Freight Yard

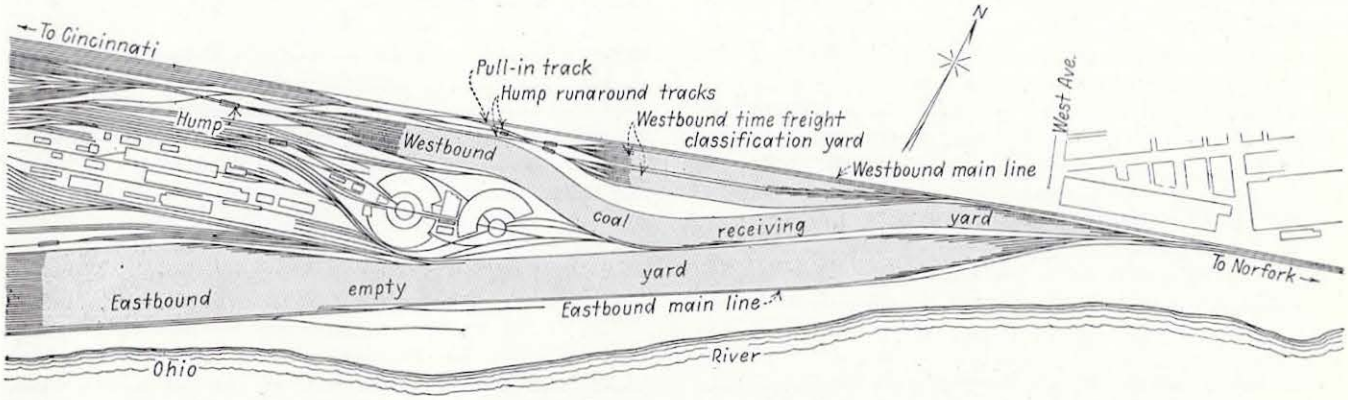
Another improvement was the addition of a westbound time-freight classification yard of such dimensions as to permit the consolidation at this point of classification work that had heretofore been done at scattered locations to the east and west. As a result of the track changes which were made in extending the eastbound empty car yard, a strip of property was made available directly east of the enginehouses between the westbound coal receiving yard on the north and the empty car yard extension on the south. To provide space for the westbound time-freight classification yard, a portion of the westbound coal receiving yard was, in effect, shifted southward to this area. This necessitated the use of reverse curves in the tracks in the latter yard to connect them with the undisturbed portion of the yard.

In its relocated position, the westbound coal receiving yard has fewer tracks, but a number of the tracks were lengthened substantially with the result that the capacity of this yard is about the same as before. It now has 14 tracks with a capacity of 1,078 cars.

Coal trains enter the yard from the east by means of one or two pull-in tracks, each of which connects with the yard through a ladder track with No. 10 turnouts on a No. 8 ladder angle. In addition, certain track changes were made at the westerly end of the coal receiving yard, where it converges into two hump tracks leading to the westbound coal classification yard. In the original layout at this end of the yard, some of the tracks converged in pairs immediately short of the ladder tracks. In the recent alterations, the turnout for each pair of tracks was moved far enough back from the ladder to provide a single track 200 ft. long between the headblock and the clearance point at the ladder track. This permits road engines to double trains into the tracks without interfering with the hump operation.

Location of New Yard

The new westbound time-freight classification yard is situated in the area made available by relocating a portion of the coal-receiving yard. New tracks were built for the relocated portion of the receiving yard. Because of the relation of the site for the new classification yard to the existing trackage, it was necessary to place the hump at



Diagrammatic Drawing of the Easterly Portion of the Portsmouth Yard, Showing the Relative Locations of the New Westbound Time-Freight Classification Yard, the Relocated Portion of the Coal Receiving Yard, and the Extension to the Eastbound Empty Coal-Car Yard

the westerly end of the yard. With this arrangement it was possible to incorporate the six tracks along the north side of the coal classification yard into the new set-up as a receiving and outbound yard for time-freight trains. As a result, incoming trains from the east move past the new yard into the combination receiving and outbound yard, from which the cars are humped eastward. Classified cars are then pulled back around the new hump on run-around tracks, to the combination receiving and outbound yard.

The Westbound Time-Freight Classification Yard as Seen From the Hump. Loaded Cars at Right Are on Tracks of Coal-Receiving Yard

The new yard has 18 classification tracks, arranged in two groups of 9 each. One group is used for the classification of cars destined for Cincinnati; the other is for cars going to Columbus. The outside track, which is adjacent to the westbound main line, also serves as part of the pull-in track. Each of the 18 tracks of the classification yard holds from 19 to 38 cars, and the total capacity is 496 forty-five-foot cars.

Details of Hump Layout

The track arrangement at the hump, or west, end of the classification yard includes a single hump track dividing into two secondary leads, one each for the two sections of the yard. Each of the secondary leads divides, in turn, into three tracks, each of which serves a group of three classification tracks. All of these tracks are equipped with No. 8 lap switches, operated by electro-pneumatic machines. By using these lap switches at the hump end of the yard, the maximum available space was utilized for the classification tracks. From each of the secondary leads, a run-around track extends westward around the hump. By means of these tracks, classified cars are returned to the combination receiving and outbound yard. Track changes made in the latter yard to adapt it to the new layout included the introduction of a double ladder to permit the necessary connections with the hump track and the run-around tracks.

At the east end of the new classification yard are two parallel ladders, one for each of the two sections of the yard. Both ladders connect at their east ends with the pull-in track for incoming trains. This ladder arrangement also permits maximum use of the space available. Like the other ladder tracks, those at the east end of the yard have No. 10 turnouts on No. 8 ladders.

The hump arrangement conforms to the latest practices with respect to grades, car retarders, signals and communications. Coming out of the inbound yard, the hump track is on a grade of 0.4 per cent, which increases to 4 per cent as the track ascends the hump. The latter grade is about 275 ft. long between the points of intersection of the grade lines. From the crest, the hump track descends on a separation grade of 4 per cent for 225 ft. In this section of the track there is a two-section electro-pneumatic retarder—10 cylinders on each rail.

The 4 per cent grade extends slightly beyond the point where the hump track divides into the two secondary leads. Throughout their length—about 250 ft.—these leads are on a grade of 0.8 per cent. On each of the secondary leads there is another retarder location, with a two-section retarder, which has 22 cylinders, 11 on each rail. Thus, only three retarder locations serve all of the 18 classification tracks. These tracks are on a non-accelerating grade of 0.2 per cent for varying distances, depending on their lengths. At the east end of the yard, the tracks ascend on slow-down grades varying from 0.2 to 0.5 per cent, also depending on their lengths.

All of the retarders and power switches at the hump end of the yard are operated from a control tower of brick and concrete construction, located north of the tracks and directly opposite the retarders on the two secondary leads. A feature of the tower is an outisde reinforced concrete stoker bin for feeding coal to the firebox of the heating boiler. In addition, an exterior cat-walk of metal construction facilitates the cleaning of the large windows that are provided in three walls of the operator's room. A frame shelter is provided at the crest of the hump for the hump master. A communication system, with a loudspeaker and a transmitter at both stations, is located between the hump master's cabin and the operator's room.

The signal system at the hump includes a color-light five-indication signal (operated from a control box at the hump master's cabin), and five hump-repeater signals, spaced 1,200 ft. apart through the yard to the west of the hump. With the exception of the repeater signal nearest the hump, which faces west, all of the signals give indications in both directions. The mast carrying the hump signal, located exactly at the apex of the hump, also carries a two-indication trimmer signal.

The new hump is constructed of earth between stone retaining walls, which restrict the hump to a minimum width. Other grading in the vicinity of the hump included the raising of the westbound main track and the pull-in track a maximum of 3 ft. for a distance of approximately 2,600 ft. The longitudinal center line of the hump is located about 100 ft. south of the main track. Because this main track is only a few feet from the company's property line, it was necessary to construct a retaining wall about 2,200 ft. long to hold the embankment. The necessary changes in grade which were incorporated in the existing tracks in the new classification yard were relatively light. The total grading, including the hump, amounted to approximately 50,000 cu. yd.

Part of the work of constructing the new classification yard included the relocation of an existing floodlight tower to a position between the two secondary hump leads, where it is so arranged that four reflectors are directed toward the yard and one toward the hump. Also, as a result of the track changes made, it was neces-

sary to rearrange the lead to one of the enginehouses, which involved the removal or relocation of several engine-servicing facilities. Other incidental work included the filling of a 9-ft. by 14-ft. slab-top tramway underpass under the yard area. In addition, a new office and scale building was constructed at the hump for the westbound coal classification yard.

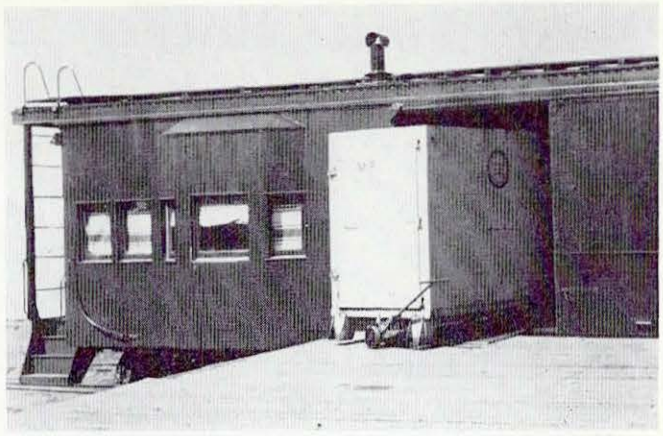
The new yard tracks are laid with 130-lb. relay rail on new creosoted ties, fully tie-plated. The ballast is pit-run gravel, and about ten inches deep beneath the ties, except under the car retarders, which are ballasted with crushed stone. Construction of the westbound time-freight yard was started on July 26, 1941, and was completed in April of this year, at an expenditure of $655,000. Extension of the eastbound empty car yard was completed in May, 1941, at a cost of $325,000. Thus, the expenditure for the two improvements totaled $980,000.

The work described in this article was carried out under the general direction of W. P. Wiltsee, chief engineer of the N. & W., and under the direct supervision of C. E. Armstrong, assistant engineer at Portsmouth, who was assisted by H. E. Smith, resident engineer. The grading and building work was done under contract, but all track work was carried out by railway forces. The signaling, retarders, power switches and control equipment were furnished by the Union Switch & Signal Co.

Combination Caboose Aids L. C. L. Movement

THE Missouri Pacific has built nine combination caboose-coach-box cars in its own shops for use on local freight trains and mixed trains. The caboose at one end provides quarters for the train crew and has seats for four passengers. The merchandise space serves local needs for l.c.l. movements.

These cars were originally 36-ft., 40-ton box cars with steel underframes having fish-belly center sills, which required rebuilding. The caboose end of the car has been fitted with side bays and there is no cupola. The interior has all essential caboose equipment. The changes include the installation of platforms and side steps at each end and a doorway cut through the caboose end of the car. The original side door openings provide access to the merchandise space which is 21 ft. 6 in. long. The conversions cost less than $1,500 each.



Loading a Portakold Refrigerator Container in the Merchandise Space of a Mo. P. Combination Caboose

The cars serve a particularly useful purpose in meeting the requirements of General Order No. 1 of the Office of Defense Transportation where the minimum permissible carload would interfere with prompt handling of this class of traffic between many small points on the railroad. They are used to handle l.c.l. traffic between certain points on the divisions over which they operate and are placed at the division terminal and intermediate freight houses for loading and unloading. They are not intended for handling at large l.c.l. loading points.

Through the use of Portakold refrigerator containers, they provide a complete merchandise service, including perishables where they must be handled in small lots. These containers, one of which is shown entering a combination caboose-box car, have been in extensive use on the Missouri Pacific for several years. Each will hold approximately 3,000 lb. of perishables, and the cost of ice and salt is said to be less than one dollar for a trip of 48 hr. Because of their economy in cost of refrigeration, two of them are placed in some of the regular merchandise cars of the Missouri Pacific in lieu of loading a refrigerator car.

The Missouri Pacific Combination Caboose-Coach-Box Car for Use on Local Freight and Mixed Trains

"Make Work" Move in Vacation Dispute

CHARGES that the fourteen non-operating brotherhoods are trying to convert the paid vacation plan agreed upon following the Emergency Board's recommendation of last December, into a "make work" program, were made by counsel for the railroads at hearings before Referee Wayne L. Morse of the National War Labor Board at Chicago on July 30 to August 2. The principal reason for the failure of negotiations with respect to vacations, the brief of the carriers set forth, was the insistence by the organizations upon general and rigid applications of the various working agreements or schedule rules to the vacation system in such manner as to pyramid costs and multiply administrative difficulties. This position of the organizations was never recognized or accepted by the carriers, the brief continued, and was explicitly rejected by the Emergency Board, but the organizations are now attempting to obtain, by "interpretations" of the agreement, all manner of indirect and collateral payments, positions and benefits for the vacationing employees and for persons other than vacationers which they failed to obtain by negotiation, recommendation, mediation, or arbitration.

"When they entered into this vacation agreement," the brief stated, "the purpose of the parties was to afford to as many employees as practicable vacations for rest and recreation, to provide for cooperation in the administration of the plan, to avoid the imposition of unnecessary expense upon the carriers, and to retain efficiency and economy of operation to the highest possible degree. To these purposes the carriers' committees have steadfastly adhered. The carriers believe that every part of the agreement must, in fairness to both parties, be interpreted in the light of these underlying purposes.

"The carriers assert that the organizations' position and their supporting arguments in this case make plain the fact that the purposes of the organizations now embrace a make-work program and a pyramiding of expenses, even though those purposes were disclaimed before the agreement was executed."

Generally, the dispute arises from a difference in interpreting words and phrases. In addition, the brotherhoods contend that the carriers have no right to designate when employees shall take vacations, even though their absence may necessitate the hiring of additional employees during periods of heavy work.

In a joint compilation submitted by the carriers and the brotherhoods at the hearings, twenty-two questions in dispute were outlined and illustrated. Article 4, among the points in question, states that vacations may be taken from January 1 to December 31 and due regard, consistent with requirements of service, shall be given to the desires and preferences of the employees in seniority order when fixing the dates for their vacations and that the management may upon reasonable notice of 30 days or more, if possible, but in no event less than 15 days, require all or any number of employees in any plant, operation, or facility, who are entitled to vacations, to take vacations at the same time. The carriers contend under the first portion, that vacations, if afforded, may be allowed during the entire calendar year; that the phrase "and due regard consistent with the requirements of service shall be given to the desires and preferences of the employees," embraces all elements of the service, including the necessity of continuous operation and maintenance, and avoidance of impairment of efficiency in operation and maintenance, economy and efficiency in the conduct of the carrier's business. "Assuming such due regard, the preferences of the employees in seniority order will be observed when vacations are afforded under this paragraph."

The labor organizations contend that "the first paragraph requires that the desires and preferences of the employees, in seniority order, shall be given 'due regard' when fixing vacation dates. In this fixing and assigning of vacation dates, the 'due regard' so given must be consistent with the requirements of the service and that neither management nor employees are given arbitrary or unqualified rights. The words 'requirements of the service' mean real and actual service demands, not mere matters of managerial preference, and in like manner, they do not refer merely to current inconveniences, or operating problems that can be controlled by reasonable adjustment or planning. The service requirements referred to are not to be determined by what in management's opinion is most desirable, but rather by what is actually required for continuing carrier operations. The granting of vacations is the primary objective, and actual service demands, not managerial preference or convenience, must be the controlling factor. To the extent that service requirements will permit, senior employees must be permitted to select vacation dates in keeping with their desires and preferences during the vacation year."

The carriers contend that they have the right to give vacations at the same time to all or any number of employees in any plant, operation, or facility who are entitled to vacations, upon the notice prescribed in the article. The carriers interpret the meaning and intent of the words, "all or any number of employees in any plant, operation, or facility" to mean any number of employees in a plant, operation, or facility such as a shop, section, bridge gang, office, station, etc.

The brotherhoods contend that "this paragraph does not permit management to ignore the desires and preferences of employees, and to require all employees on an entire system, or of an entire department, or an entire group, to take vacations at the same time."

In the interpretation of Article 5, the carriers contend that a carrier shall adhere to the vacation dates so far as practical, but has the right to defer the same by giving the notice provided for in the paragraph.

The brotherhoods contend that when a vacation date has been assigned it may not be changed by management, either by deferment or advancement, except in cases of real necessity growing out of actual service requirements and demands.

The railroads contend that a carrier has the option of either granting a vacation with pay to an employee or keeping him at work and paying him in lieu thereof. The brotherhoods take the position that managements are not permitted to exercise any such option.

Article 1 provides that, effective with the calendar year 1942, an annual vacation of six consecutive work days with pay will be granted to each employee covered by the agreement who renders compensated service on not less than 160 days during the preceding calendar year. The carriers interpret "consecutive work days" to mean any consecutive days covered by an employee's assignment upon which he would have worked had he not been on vacation, and this regardless of whether his assignment is for a full eight hour day or less. In other words, the carriers' position is that "consecutive work days" mean days covered in the employee's regular assignment as distinguished from days upon which he

may be called or notified to work when there is no regular assignment to work. The brotherhoods contend that the work days should be interpreted in accordance with the rules agreements, or recognized practice thereunder.

The carriers interpret the words, "renders compensated service," to mean that, to be considered as a day upon which compensated service is rendered, an employee must both work and receive compensation, and that the term would not embrace days for which the employee was compensated but upon which he performed no service. The brotherhoods hold that these words should be interpreted and applied as to include all and any compensation received from the employing carrier for time paid for, and that the application of the language is not confined to work actually performed. The unions would include compensation paid for stand-by, while off duty, during illness, vacation, and court service or because of suspension or dismissal, in settlement of improper application of rules agreements and for Sundays and holidays upon which the employee does not actually work.

Where the words "160 days" are used, the carriers' contend that a day is to be considered as a 24-hour period from the time an employee first began service on any day, and that all compensated service on such day, regardless of the time or amount of compensation paid, will be considered as one day. The brotherhoods contend that these days need not be consecutive, but may be any days of the calendar year preceding the year in which the vacation is to be taken. In addition, they contend that each calendar day for which an employee is paid by the employing carrier for some time, regardless of the amount of compensation, or the length of time paid for, will be counted as one day.

* * *

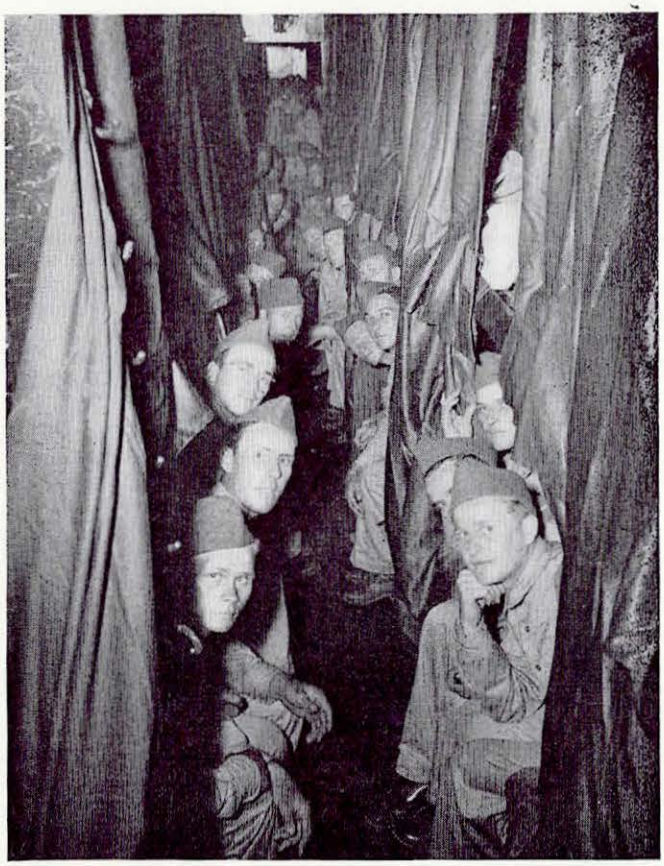


Photo by U. S. Army Signal Corps

Soldiers by Sleeper — Two to a Lower, One to An Upper

Communication . . .

How Conductors Can Build Post-War Traffic Now

SACRAMENTO, CALIF.

TO THE EDITOR:

I have read your fine editorial in your June 27 issue, entitled "Don't Neglect the Passenger." I heartily agree with you.

I have done a great deal of traveling by rail, and I know very well that some employees have a tendency to be rather sarcastic and discourteous when asked what may seem to them foolish questions during these trying times and when trains are overcrowded.

There is a fine example on the Santa Fe Golden Gate Streamliner out of Oakland, Calif., at 8.20 a. m. every day. The conductor seems to enjoy his work and he has made many friends for himself and the Santa Fe with his pleasing manner. It certainly is a pleasure to board his train and be greeted with a smile and a cheerful good morning.

The railroads have a splendid opportunity to make many new friends among the new patrons, many of whom have never been on the train before, through courteous treatment and a spirit of friendliness. Many of these can be retained after all this trouble is over and they will be if we have conductors like the one mentioned above.

How much more kindness is found in a man of this kind than in many others who seem to think they are doing you a favor by allowing you to ride on the railroads during this emergency.

I am enclosing you a card this conductor gave me during one of my many trips on this train. He certainly tries to carry out everything that is on the back of this card.

E. G. BAGLEY

[The name on the card enclosed by this correspondent was that of Santa Fe conductor J. C. Allison. On the back of the card the following appears: "I hope you had a pleasant trip. I am working every day to give the very best service and to see that everyone has a pleasant journey. If anything has gone wrong tell me so that I may try to prevent a recurrence and if you have enjoyed your trip please tell me; also tell your friends about Santa Fe service."—EDITOR.]

New Book . . .

The Organization and Training of Industrial Fire Brigades, by John C. Klinck. 119 pages. 9 in. by 6 in. Bound in paper. Published by S. C. Toof & Co., 195 Madison Ave., Memphis, Tenn. Price $1.00.

This practical, simple, illustrated handbook for students and instructors is based on the author's experience as an officer of the Memphis Fire Department in organizing and training private fire brigades in industrial plants, warehouses, and other large buildings or hazardous situations. It is designed as a concise but inclusive text for a thirty hour course of instruction covering practical methods of fighting fire, the construction, functions and use of fire fighting equipment, and related subjects about which the private fire prevention squad must be informed—plant inspection, fire drills, defense against incendiary bombs, rescue work, salvage, and similar subjects essential to complete preparation for emergencies. Railway officers responsible for the organization or supervision of company fire-fighting forces may find useful ideas and suggestions in this book.

AUTOS USE ANDES RAIL TUNNEL—A road has recently been completed through the railway tunnel connecting Chile and Argentina in the Andes Mountains, according to the Railway Gazette (London). This will permit motor travel to continue while the mountain passes are blocked by snow. The tunnel is about 15 ft. wide and almost two miles long. Normally only one train a day uses the meter gage track, part of the through route between Buenos Aires and Valparaiso.

Railroads-in-War News

Davies Calls For More Tank Cars

Asks oil industry to furnish an additional 5,000 for the east coast area

In an effort to increase the flow of oil to the east coast, Deputy Petroleum Coordinator Ralph K. Davies has sent telegrams to representatives of the petroleum industry in the middle west, southwest, and Rocky Mountain states, and to the four principal tank car companies, calling upon them to make 5,000 additional tank cars available for service to the Atlantic seaboard.

At the same time the eastern oil companies were notified that the Office of Petroleum Coordinator expects a substantial and immediate increase in overland shipments as the result of the agreement by Federal Loan Administrator Jesse H. Jones to absorb the excess costs of these overland shipments, and also the extra cost of petroleum products purchased in the middle west as compared with those bought on the Gulf coast, which extra cost has not been previously absorbed through any agreement with the government.

The oil companies are already using an estimated 62,000 tank cars—more than half of all the tank cars in petroleum service in the country—to bring oil from the producing areas to the east, and only last week, achieved the record-breaking movement of 800,100 barrels daily. It has been believed until recently, said Mr. Davies, that this was very nearly as many cars as the railroads would be able to handle. However, he continued, a schedule of through shipments of solid trains now in effect, speeds up the movement substantially, and permits the handling of more cars at this time.

Meanwhile, Secretary of Commerce Jones announced that the Defense Plant Corporation, in cooperation with the Army Corps of Engineers, Office of Defense Transportation, Inland Waterways Corporation, and Smaller War Plants Corporation, has agreed to finance the conversion and construction program designed to provide additional barge facilities for the transportation of oil while maintaining and improving existing inland waterways transportation.

The plan calls for the conversion of existing steel dry-cargo barges into tank barges. Inland Waterways Corporation and privately-owned carriers are expected to furnish the steel barges for conversion. Equipment to replace the converted steel barges will consist of tug boats, tanker barges and dry-cargo barges with wooden hulls.

Also, this week Mr. Ickes announced the appointment of William C. Eberle as director of transportation for District No. 1 (east coast states). The new district director will have his headquarters in the Chanin Building in New York City. Since February, 1942, Mr. Eberle has been employed by the OPC as chief of the marine section, division of transportation.

Speaking in the Senate on July 30, Senator Andrews, Democrat of Florida, urged the immediate construction of the recently-authorized Florida barge canal in order that it may be used to relieve the oil shortage on the east coast.

President Roosevelt Signs Ore Transport Bill

President Roosevelt has signed H. R. 7100, a bill which would extend for the period of the present war and for six months thereafter the time within which vessels of Canadian registry may be permitted to transport iron ore on the Great Lakes between United States ports. The present law permits such transportation of iron ore during 1942.

Permits Burlington to Substitute Buses for Trains

Joseph B. Eastman, Director of Defense Transportation, has issued a special order authorizing the Chicago, Burlington and Quincy to substitute bus service for its Yellowstone National Park summer passenger trains No. 24-27 and No. 28-23 between Billings, Mont., and Cody, Wyo.

The order (Supplementary Order ODT No. 2-3), which became effective July 31, followed an application from the railroad in which it was asserted that tourist traffic had declined sharply, and no longer justified the use of the railroad equipment in the 228-mile daily round trip.

The one Pacific-type passenger locomotive, and the four to five cars used by the train, the railroad application said, were needed in other traffic. The railroad stated that bus service between Billings and Cody could amply provide for the present travel. The train began operation in June, on a seasonal schedule, and was to have continued through September 12.

The railroad's application to ODT, under the provisions of General Order ODT No. 2, to make the substitution, stated that authority for the move already had been granted by the Interstate Commerce Commission.

The order requires the Burlington Transportation Company, operator of the bus service, to file with the Interstate Commerce Commission, and to publish and continue in effect for the duration of the war tariffs or appropriate supplements to filed tariffs, showing any changes in rates, charges, rules, and regulations which may be necessary to carry out the order.

Would Up Price of Railroad Coal

Government examiner suggests increases ranging from 0 to 60 cents a ton

Examiner Floyd McGown of the Bituminous Coal Division of the Department of the Interior has submitted to Acting Director Wheeler a report containing recommendations which, among other things, proposes an increase in the minimum prices of locomotive fuel in order to reflect changes in the cost of production. No action on the report has been taken by the Acting Director.

The examiner recommended that the present effective minimum prices for locomotive fuel be increased per ton as follows:

Minimum Price Area	1	20 cents
Minimum Price Area	2	nothing
Minimum Price Area	3	30 cents
Minimum Price Area	4	60 cents
Minimum Price Area	5	5 cents
Minimum Price Area	6	15 cents
Minimum Price Area	7	5 cents
Minimum Price Area	9	15 cents
Minimum Price Area	10	30 cents

Parties desiring to do so may file exceptions to the examiner's report, briefs in support thereof, and requests for oral arguments on or before August 18. Oral arguments on the exceptions will be heard by Acting Director Wheeler on August 20.

Meanwhile, in two separate actions, Price Administrator Leon Henderson has issued a temporary schedule of maximum rates for barge shipments of coal to New York and New England and has simultaneously readjusted existing machinery so as to enable the federal government to absorb any resulting increase in shipping charges.

Both actions, it was said, were designed to keep barge transportation operating at capacity and to prevent the higher cost of moving bituminous coal into New England under wartime conditions from breaching OPA price ceilings for the important industrial products produced in that area.

Recognizing higher transportation costs caused by war and submarine activity, Mr. Henderson ordered into effect a schedule of uniform maximum charges for east coast barge movements beginning between August 3 and October 2. This schedule, Mr. Henderson said, was recommended by Joseph B. Eastman, Director of Defense Transportation, for tentative use, subject to revision when fuller data is obtained.

By Amendment 2 to the Compensatory Adjustment Regulation No. 1, Mr. Henderson at the same time rearranged the machinery provided in that regulation by which the government meets the increased transportation costs resulting from wartime dislocation of waterborne shipments of coal along the east coast, so as to take

account of the new barge rates and permit the absorptions to be based on such rates.

The Compensatory Adjustment Regulation, issued on May 18, permits receivers of bituminous coal in New York and New England to apply to the government to pay increased costs of transportation due to wartime dislocation of shipping. Under this regulation, an adjustment was not allowed beyond the rates in effect on May 15. By the present amendment, however, adjustment is permitted up to the amount of the newly authorized transportation charges.

Other changes contained in Amendment 2 to the Compensatory Adjustment Regulation 1 include:

1. Because railroads benefit directly from increasing rail shipments of coal normally carried by water, they are not permitted to apply to the government to absorb increased costs of transporting coal shipped to them for their own use.

2. On combined rail-water shipping charges, the adjustment on the rail portion of the movement will be based on the lowest available rail charge from the same origin to the same port of transshipment.

"Men, Machines and Victory" Program Extended

The radio series "Men, Machines and Victory," presented over the Blue Network on Fridays at 10:30 p. m., EWT, by the War Production Fund to Conserve Manpower, has been extended through August 28. These programs place before a nationwide audience the need of accident prevention to speed the war effort as well as the work of the War Production Fund in trying to meet that need. Through the War Production Fund, $5,000,000 will be provided for the expansion of the accident-prevention program of the National Safety Council.

Pullman Handles All-Time High Troop Movement

An all-time high in troop movements and the year's peak in civilian travel were handled during June by the Pullman Company. The number of soldiers, sailors and marines transported in organized movements in Pullman cars totaled 565,200 during June and the total for the first six months of this year was more than 3,000,000. The June increase over the average for the preceding five months amounted to 11 per cent. Men in the armed forces traveling alone on furloughs or inductees reporting to camps for military service were not included in the foregoing figures. Civilian travel in Pullman is now running more than 30 per cent ahead of last year.

Bus Regulations are Modified

An amendment to General Order ODT No. 10 has been issued by the Office of Defense Transportation to permit the transportation of juries, prisoners, and mentally ill persons and their official custodians by chartered bus upon the written request of the proper authorities.

Order No. 10 banning sightseeing by bus and limiting charter bus service to certain essential operations went into effect June 1. The amendment became effective August 1.

The amendment also permits railroads and airlines to move passengers in chartered buses over regular routes should weather conditions, accidents, or other emergencies prevent operation of regular rail or air facilities.

Members of the state militias have been added to the list of those who may legally be transported by chartered bus when such transportation cannot readily be performed by common carriers operating over regular routes.

Permission to transport children to and from summer camps by chartered bus in the absence of regular facilities has been limited to apply only to children planning to spend more than one day at camp, the ODT pointed out.

ODT Relaxes General Order No. 1 for Armed Forces

The Office of Defense Transportation has issued a general permit allowing rail carriers to accept l. c. l. freight shipments for the armed forces on maneuvers without regard to the provisions of General Order ODT No. 1.

The permit (General Permit ODT No. 1-2), which became effective August 3, covers merchandise in closed cars "for the armed forces of the United States in connection with field maneuvers, destined to or shipped from any depot, warehouse or other facility of such armed forces."

General Order ODT No. 1, which became effective May 1, prohibits railroads from accepting l. c. l. carload shipments unless the cars are loaded to at least eight tons.

ODT Appointment

Appointment of Guy Kelcey, of Westfield, N. J., as assistant director of the Local Transport Division, Office of Defense Transportation, was announced on August 3, by Joseph B. Eastman, ODT Director.

Mr. Kelcey has been connected with motor vehicle transportation for 20 years. He was instrumental in the development and application of numerous traffic devices and has conducted a number of surveys and investigations in the traffic field, Mr. Eastman said.

Mr. Kelcey is a member of the American Society of Civil Engineers, the Institute of Traffic Engineers, and the Society of American Military Engineers and is the author of many articles on motor transportation subjects.

Henderson Protests Proposed Fare Increase

Price Administrator Leon Henderson has asked the Interstate Commerce Commission to either dismiss or indefinitely postpone action on a petition by several railroads for a 10 per cent increase in intrastate commutation fares in New York State.

The request of the railroads for the increase had been denied by the New York Public Service Commission on February 24, and the carriers appealed to the commission on April 13.

In his petition opposing the increase Mr. Henderson declared that "further increases in rates of the petitioners will constitute inflationary increases and profiteering contrary to the program of the national government to stabilize commodity prices and the cost of living."

"All the carriers involved in the proceeding," continued Mr. Henderson, "have a net operating income substantially in excess of that earned prior to the entrance of this country into war. Even without further increases in rates the net operating income of each of the railroads is increasing rapidly."

A.A.R. Directors Concerned Over Motive Power

Growing concern over the adequacy of freight motive power on the country's railroads in the near future was expressed by railroad executives at the monthly meeting of the board of directors of the Association of American Railroads in Washington, D. C., on July 31. Some of the presidents in attendance pointed out that the present movement of oil to the east coast by the railroads is occupying a large number of freight locomotives and that if this movement continues at its present volume a shortage of locomotives may develop.

Joseph B. Eastman, Director of Defense Transportation, attended the meeting and assured the directors that he would ask the War Production Board to increase the number of locomotives that may now be built under present WPB allocations.

R. L. E. A. Committee to Confer With Eastman

The Railway Labor Executives Association has announced the appointment of a committee of four to confer with Joseph B. Eastman, Director of Defense Transportation, on problems affecting railroad employees. Mr. Eastman has promised that hereafter he will consult railroad labor before issuing orders that affect the interest of the employees, and the committee was set up for this purpose.

Named to the committee were President D. B. Robertson of the Brotherhood of Locomotive Firemen & Enginemen; President B. M. Jewell of the A. F. of L. Railway Employees' Department; President George M. Harrison of the Brotherhood of Railway Clerks; and President Samuel J. Hogan of the Marine Engineers' Beneficial Association.

OPA Postpones Price Ceiling on Tank Trucks

In order to help obtain additional truck facilities for transporting petroleum products, the Office of Price Administration has extended from August 1 to September 1 the effective date for price ceilings on transportation by tank trucks other than common carriers.

The postponement was made at the request of Joseph B. Eastman, Director of Defense Transportation, who, to relieve pressure on railroads, has prohibited use of railroad tank cars on hauls of less than 100 miles without special permission.

This diversion of short-haul traffic from rails to trucks and other facilities has created many operating problems which did not materially affect truck operators previously. The adjustments required to meet

these new problems and to determine the applicable maximum rates between points not served by particular carriers during March, 1942, warrant the postponement, OPA officials said. The General Regulations would establish the ceiling for transportation rates at levels of last March.

At the same time, OPA asked tank truck operators who would suffer hardship if required to operate under March rates to submit such information immediately to OPA. The postponement is contained in Amendment 5 to Supplementary Regulation No. 11 under the General Maximum Price Regulation.

B. & O. Shops Build Liberty Ship Engine Parts

As a contribution to the war effort, some of the Baltimore & Ohio repair shops on July 15 began producing crosshead guides and guide plates from rough iron castings for the vertical triple-expansion marine engines used in the Liberty cargo ships under construction in Baltimore shipyards. This work, sandwiched between regular railroad repair and production jobs, is a part of the nation-wide program for using railroad shops for war production to which they are adapted. The employees do this work under their regular wage and hour agreements with the railroad, and the company's sub-contract is on a non-profit basis. B. & O. shops also have undertaken repair work on locomotives, cranes, and other equipment owned by industries engaged in war work.

New England Committee on Coal Transport Formed

Formation of a New England Regional Advisory Committee on Coal Transportation has been announced by Joseph B. Eastman, Director of Defense Transportation.

The committee, made up of collier operators, will serve in an advisory capacity to the Division of Coastwise and Intercoastal Transport, Mr. Eastman said.

Richard L. Bowditch, president of the Coastwise Transport Corporation, Boston, Mass., has been named chairman of the committee.

Other members are: Kingsbury Browne, vice-chairman, vice-president, H. N. Hartwell & Son, Inc., Boston, Mass.; O. L. Alexander, president, Pocahontas Steamship Company, New York, N. Y.; Edward Page, president, New England Coal & Coke Company, Boston, Mass.; Nelson C. Smith, president, Wilmore Steamship Company, New York, N. Y., and Maxwell Harris, of Boston, Mass.

Ickes Warns New England on Coal Buying

Solid Fuels Coordinator Harold L. Ickes declared on July 31 that New England is not acquiring bituminous coal in the volume that present production and transportation facilities would warrant despite increasing possibilities that the coal may be less available to the area next winter. Reports from Howard A. Gray, Acting Director of the Office of Solid Fuels Coordinator for War, which were based on exact tabulations of the bituminous tonnage shipped into New England in the first six months of 1942, indicated that shipments are below the present abilities of the mines to produce and the railroads to transport the fuel, he added.

The tabulations showed that less than half of the coal estimated to be needed by New England in 1942 was shipped in the first half year and that the rate of shipment from April through June, which comprise the first three months of the 1942-43 "coal year," would leave a shortage of nearly 2,000,000 tons in the area by the end of the "coal year" unless the shipment rate is increased.

The report stated that 11,731,890 net tons of bituminous coal were shipped into New England in the first six months of 1942 as compared to 9,539,186 net tons in the comparable 1941 period. The 1942 calendar year soft coal requirements of New England have been estimated at 24,000,000 tons.

Loading Charge Ceiling is Postponed

At the request of the War and Navy Departments, the Office of Price Administration has extended until September 1 the date on which OPA ceilings apply to charges for stevedoring and car loading and unloading when performed under a contract with any war procurement agency.

The postponement, contained in Amendment 4 to Supplementary Regulation No. 11, will provide additional time for working out problems having a direct bearing on transportation of war materials, it was said.

Charges for stevedoring and car loading and unloading performed other than for a war procurement agency must conform, beginning August 1, with ceilings established by OPA price regulations at levels of last March. Where such services are performed by common carrier operating in their capacity as such, the limitations of the price regulations do not apply, it was pointed out.

Brotherhoods Concerned Over Rail Seizures by WPB

The railroad brotherhoods have become so concerned over what they term the War Production Board's "short-circuiting of legal procedure for rail abandonments provided for under the Interstate Commerce Act" that they have appointed a committee to look into the matter.

The brotherhoods point out that requisitioning orders have already gone out from the WPB for nearly a dozen branch lines and that some are being dismantled. They are, it is claimed, being taken without regard to whether or not the Interstate Commerce Commission has or has not authorized their abandonment.

The committee consists of J. G. Luhrsen, executive secretary of the Railway Labor Executives' Association; E. E. Milliman, president of the Maintenance of Way Employees; and C. J. Goff, assistant president of the Brotherhood of Locomotive Firemen & Enginemen.

WPB officials have contended that President Roosevelt's broad wartime powers are adequate to authorize the seizures of branch line rail and fastenings, but this view was questioned by the R. L. E. A. The labor group went on to say that "it would seem that only a declaration of martial law by the President would justify the suspension of laws now on the books governing procedure for railroad abandonments."

Mr. Luhrsen added that this "drafting" of many miles of road "makes it quite clear that the railroads expect to accomplish abandonments they have sought for many years by taking advantage of the war situation."

ODT Gets Control of All New Buses

A plan giving the Office of Defense Transportation control over a fleet of several thousand new buses for use as "trouble shooters" wherever needs for additional transit facilities develop, has been announced by Joseph B. Eastman, ODT Director.

All integral-type buses not yet disposed of by the manufacturers, as well as those still to be built are affected by the plan. As of July 31, all such buses were frozen by the War Production Board, under its Limitation Order L-101, and will be sold only as authorized by the ODT.

Any transit company desiring to purchase a bus henceforth must first obtain permission from the ODT and upon obtaining such permission can make the purchase only by signing an agreement giving the ODT authority to transfer the bus for use elsewhere. In addition, a transit company purchasing a city bus must agree to operate it not more than 2,000 miles per month, and a company purchasing an intercity bus must agree to operate it not more than 4,000 miles per month.

The ODT explained that this stipulation had been included in the plan due to the tendency of most transit companies to operate new equipment more intensively than older vehicles. The limitation on mileage is designed to keep the buses affected by the plan in operation for the duration.

Should the ODT deem it necessary to transfer a bus sold under the plan in order to provide more necessary service elsewhere, the purchaser would be required to relinquish the vehicle under a prearranged plan of compensation.

The second purchaser would be required to pay the first purchaser the original cost of the bus, less $\frac{1}{84}$ of such cost for each month since the bus was manufactured, except in the case of city buses costing more than $7,000, when the rate of discount would be $\frac{1}{120}$ of the cost for each month since the bus was built.

Eastman Curtails Mid-West Bus Service

Continuing its drive to eliminate waste in the use of the country's intercity bus facilities, the Office of Defense Transportation has directed two companies to suspend service over certain routes in the middle west.

Interstate Transit Lines, Inc., was directed to suspend service between Milwaukee, Wis., and Chicago, Ill., via Kenosha, Wis., and Waukegan, Ill. and All Amer-

ican Bus Lines, Inc., was directed to suspend service between Columbus, O., and Hammond, Ind.

The route on which Interstate Transit Lines will suspend operations will be served by Northern Greyhound Lines, Inc., which was directed to operate at least one of its daily round-trip runs between Milwaukee and Chicago by way of Kenosha and Waukegan.

As to the second case, the ODT explained that service by other bus lines between Columbus and Hammond is of such nature that continued operation by All American Bus Lines over this route is unnecessary.

The changes were provided for in the ninth and tenth in a series of special orders issued by the ODT as supplements to General Order ODT No. 11, which placed intercity bus operations throughout the country on a wartime basis.

Special Order ODT B-9 directs all American Bus Lines and Northern Trails, both of which operate between Chicago and New York, to honor each other's tickets, to divert traffic to each other for the purpose of relieving overloads, to stagger schedules, to eliminate duplicate depot and ticket agency facilities wherever practicable, and to limit the number of daily schedules.

The other order issued on July 30 (Special Order B-10) directs Northern Greyhound Lines to operate no more than 10 round trips daily between Milwaukee and Chicago and to divert at least one round trip to the route to be relinquished by Interstate Transit Lines.

Order 9 becomes effective August 3; while Order 10 becomes effective August 17.

Pacific Great Eastern's War Usefulness Studied

The potential importance of the Pacific Great Eastern as a link in an all-rail route to Alaska from the United States is reported to be the subject of considerable interest in Canada, and particularly in British Columbia, since the line is owned by the provincial government. The P. G. E., unusual in that it has no physical track connection with any other railroad, at present operates a 347 mi. line in southwestern British Columbia between Squamish, a port at the head of the Howe Sound, north of Vancouver, and Quesnel, a point some 75 mi. south of Prince George on the Canadian National. Its construction was started just before World War I broke out, and suspended in 1921.

A route for a military railroad to Alaska from the neighborhood of Prince George is now being studied by the U. S. War Department, as reported in *Railway Age* of July 11, page 72, and surveys in progress are expected to be completed this fall. Extensions to the existing P. G. E. line would adapt it to serve as a connection between Prince George and Vancouver. Surveys for the additional mileage were made while construction of the line was in progress, and the section between Quesnel and Prince George is said to offer no particular obstacles. The 35 mi. link between Squamish and Vancouver was partly built, but it has never been completed because sufficient traffic to support it has not developed in the thinly settled district served by the road.

The southern half of the Pacific Great Eastern traverses rugged country, and its grades are heavy. Instead of completing the line into Vancouver, it is now proposed to construct a connection from the vicinity of Clinton, 166 mi. north of Squamish, southeast some 50 mi. to Savona on the Big Thompson River, where a junction could be established with the main lines of both the Canadian Pacific and Canadian National. Surveys made many years ago indicate that this route would be practicable, it is said, and the operating difficulties incident to the grades on the existing line would be avoided, but the question has been raised whether the saving in mileage, as compared with the present C. N. R. route between Savona and Prince George via Red Pass Junction, would justify the project as a wartime undertaking.

Pensioned Employees Given an Opportunity For War-Time Service

As a result of numerous letters from former railroad workers anxious to serve during the war-time emergency, the Employment Service of the Railroad Retirement Board has undertaken to return annuitants and pensioners possessing certain skills to work in the railroad industry. The Board will shortly send letters and applications for employment service to 40,000 annuitants and pensioners who, according to the Board's records, were engaged in "critical" occupations, to determine whether they are interested in returning to railroad service. If these men are now physically fit and willing to return to railroad work, the Board will try to place them in suitable employment immediately. Registrants for whom suitable railroad jobs cannot be found, but who are apparently capable of performing other employment, will be referred to the United States Employment Service for possible placement in other critical industries.

Individuals awarded annuities under the Railroad Retirement Act of 1937 will not receive annuities for any month in which they work for a railroad employer. The Employment Service, therefore, will try to arrange the beginning and ending dates of resumed service so that an annuitant will not receive less in any month than he would have received if he were on the annuity roll for that month. Annuity payments will be reinstated effective the first of the month following the last month in which compensated service was performed. Pensioners, those who were transferred from private railroads, pension rolls to the pension rolls of the Railroad Retirement Board, will continue to receive their pensions while they are employed.

The majority of those annuitants and pensioners who will be called first are those who were formerly engaged in shopcraft occupations. A list of selected critical skill occupations prepared by the Employment Service includes the following: Apprentices; blacksmiths; boilermakers; carmen; chief telegraphers and telephoners or wire chiefs; chief train dispatchers; clerk-telegraphers and clerk-telephoners; electrical workers; equipment, shop, electric, material and supplies inspectors; gang foremen of shops, engine houses, and power plants; gang foremen of stores and ice and reclamation plants; machinists; molders; sheet metal workers; skilled trades helpers for maintenance of equipment and stores; stationary engineers; stationary firemen; oilers; coal passers; water tenders; telegraphers; telephoners; towermen; train directors and train dispatchers.

"Ports Are Wide Open", Says A.A.R. Port Manager

More export freight is now flowing through American ports than at the peak of the first World War, George C. Randall, manager of port traffic of the Association of American Railroads, disclosed this week during a round-table radio discussion. According to Mr. Randall, between 2,500 and 3,000 cars—about 25 per cent more than in 1940—are being unloaded daily at the ports for export movement.

In spite of the large increase in export traffic, Mr. Randall said, "our ports have been kept wide open and entirely liquid." Moreover, he added, "the job is being done so smoothly and with so little difficulty that the general public hears very little about it."

The railroad representative contrasted these conditions with those in the last war when at one time as many as 200,000 loaded cars were standing idle and blocking track space at or near the North Atlantic ports. He attributed today's satisfactory port situation to better organization and cooperation among and between the railroads, steamship people, government agencies and port authorities.

Another reason why there is no congestion or delay at the ports, Col. William J. Williamson, chief of the Traffic Control Division of the Army's Services of Supply, said, is the machinery set up by the Army to facilitate export movements. He referred particularly to the holding and reconsignment depots.

"These depots, which are usually located a distance of an overnight haul from the ports, are operated by the Transit Storage Division of the Army," he continued, "and are very useful when traffic must be diverted or held up."

Stating that his branch of the service has found the various divisions and sections of the Association of American Railroads "exceedingly helpful and invaluable," Col. Williamson revealed that the railroads are delivering an average of nearly 6,000 carloads of freight daily to the more than 150 widely scattered government camps, plants and projects.

"There has not been a single instance of any hindrance to the war program due to failure of rail transportation," he commented.

Robert S. Henry, assistant to the president of the Association of American Railroads, declared that the transportation mistakes of the last war will not be made again. They will not be repeated, he explained, because of a better understanding between the railroads and the government, and the cooperative work of shippers.

GENERAL NEWS

A. A. R. Favors Transport Co's.

Memorandum to Study Board recognizes need for integration

"We believe that it is highly important, in the ultimate solution of the transportation problem, to open the way to establishment of transportation companies which, under appropriate regulation and in fair competition with one another, can and will so utilize any or all of the several forms of transportation as to provide the public with the most efficient, the most dependable, and the most economical transportation service." Thus reads one of the conclusions of a 31-page memorandum submitted this week to the Board of Investigation and Research by the Association of American Railroads.

The memorandum, says the opening paragraph, is submitted on behalf of the A.A.R. in a spirit of "constructive cooperation with the hope that it will prove of value to the Board." It goes on to declare that the investigation now being conducted by the Board is of "major importance to the development of a sound and efficient system of transportation for the nation and to the economic welfare of our country." The desire is also expressed to offer the Board all possible assistance in the pursuance of its study.

"At this stage," continues the memorandum, "we shall not undertake to present a comprehensive and final statement covering all phases of the investigation, but we shall offer some comments and suggestions concerning certain fundamental considerations. This memorandum does not deal with public aids to the several agencies of transportation because a hearing has been held on that feature and briefs will be filed. Neither does it deal with taxes which, presumably, will be made the subject of a hearing and discussed in briefs. As the investigation develops and issues arise from time to time, doubtless we shall have occasion to make further representations to the Board concerning relative economy and fitness as well as other matters. It would be highly desirable, we believe, in the interest of a fair and orderly procedure designed to give the Board the benefit of all available information and advice, if, at an appropriate time, a tentative report should be issued and interested parties afforded an opportunity to express their views with respect to such report."

The conclusions of the A.A.R.'s memorandum are set out as follows.

Over a long period of years a national transportation policy has gradually taken form. This policy recognizes that transportation must be considered as a single, unified problem. Its ultimate objective is the development and preservation of an over-all national transportation system which will best serve the interest of the public at the lowest aggregate cost.

From time to time, steps have been taken looking to the effectuation of this transportation policy. In 1935 motor carriers were subjected to a regulation of rates and services somewhat similar to that already applicable to railroads. In 1940 regulation of like character was extended to water lines. However, Congress recognized that much remained to be done before a solid groundwork could be laid for the accomplishment of the final objective. There are certain underlying conditions in the transportation field which, to a large extent, undermine the effectiveness of the present scheme of regulation.

One such condition is the failure to centralize governmental responsibility for construction of highway, waterway, and other transportation projects. Other important examples are the current policies relating to subsidies and taxes.

Congress created the Board of Investigation and Research in order that an authoritative study of these underlying conditions might be made by an unbiased governmental body. The Board was directed to investigate Government aids to the several transportation agencies and taxes paid by such agencies, and to investigate relative economy and fitness. The studies with respect to Government aids and taxes are, of course, subordinate to the study of economy and fitness. Congress understood that there could be no valid approach to the question of relative economy and fitness unless information were available with respect to so-called hidden costs resulting from subsidies. Elimination of subsidies would constitute a great forward step toward the establishment of fair competitive conditions among the several agencies, and toward an economic distribution of traffic.

The economy and fitness contemplated by the statute is the relative economy and fitness of each agency of transport to play a part in the national transportation system. Each means of transport must take its proper place, no more and no less, in such a system if the interests of the public are to be best served.

We believe that it is highly important, in the ultimate solution of the transportation problem, to open the way to establishment of transportation companies which, under appropriate regulation and in fair competition with one another, can and will so utilize any or all of the several forms of transportation as to provide the public with the most efficient, the most dependable, and the most economical transportation service.

Effectuation of the purpose of legislation authorizing such transportation companies will in all probability be a gradual process. In the meantime, there should be no delay in recommending and applying corrective governmental measures in respect of subsidies and other existing uneconomic conditions.

Seaboard and Milwaukee Get Truck Rights

Division 5 of the Interstate Commerce Commission has denied the Seaboard Air Line authority to operate as a common carrier by motor vehicle in interstate and foreign commerce, of general commodities between Hamlet, N. C., and Monroe, over U. S. Highway 74 on the basis of "grandfather" rights, but has justified the operation on the finding under section 207 of the Motor Carrier Act that the public convenience and necessity requires the service.

At the same time Division 5 has granted authority to the Chicago, Milwaukee, St. Paul & Pacific to operate as a common carrier by motor vehicle, in interstate and foreign commerce, of general commodities over specified routes between certain points on its rail lines in Wisconsin and Michigan. In both cases Division 5 imposed the usual four conditions designed to insure that the operations remain auxiliary to rail service.

6 Mo. Net Income Was $289 Million

Net railway operating income for same period was $551,656,630

Class I railroads of the United States in the first six months of this year had an estimated net income, after interest and rentals, of $289,100,000, as compared with $169,993,733 in the corresponding period last year according to the Bureau of Railway Economics of the Association of American Railroads. The six-months net railway operating income, before interest and rentals, one road estimated, amounted to $551,656,630, compared with $433,822,005 in the same period in 1941.

In the twelve months ended June 30, 1942, the rate of return averaged 4.24 per cent, compared with 3.31 per cent for the 12 months ended June 30, 1941.

June's estimated net income was $77,700,000 compared with $52,800,181 in June, 1941; while net railway operating income for that month was $118,730,968, compared with $93,316,121 in June, 1941.

Total operating revenues in the six months amounted to $3,280,759,026, compared with $2,424,423,816 in the same period in 1941, or an increase of 35.3 per cent. Operating expenses amounted to $2,157,262,442, compared with $1,678,348,896 in the corresponding period of 1941, or an increase of 28.5 per cent.

Class I railroads in six months paid $488,310,898 in taxes, compared with $247,276,242 in the same period in 1941. For June alone, the tax bill amounted to $110,499,194, an increase of $59,028,951 or 114.7 per cent above June, 1941. Eighteen Class I railroads failed to earn interest and rentals in the six months of 1942, of which one was in the Eastern district, 10 in the Southern district, and seven in the Western district.

Gross for June totaled $623,687,416 compared with $455,022,722 in June, 1941, while operating expenses totaled $378,472,014 compared with $298,932,432 in the same month in 1941.

Class I roads in the Eastern district in the six months had an estimated net income of $128,500,000 compared with $114,401,969 in the same period last year. Those same roads in the six months of 1942 had a net railway operating income of $233,007,200, compared with $225,930,493 in the same period in 1941.

Operating revenues in the Eastern district in the six months totaled $1,574,465,558, an increase of 29 per cent compared with the same period in 1941, while operating expenses totaled $1,052,852,637, an

increase of 27 per cent above the year 1941.

Class I roads in the Eastern district for June had an estimated net income of $33,700,000 compared with $31,635,453 in June, 1941. Net railway operating income in June amounted to $50,614,608 compared with $49,414,727 in June, 1941.

Class I roads in the Southern district in the six months had an estimated net income of $57,800,000 compared with $33,974,515 in the same period last year. Those same roads in the six months had a net railway operating income of $91,066,662 compared with $67,359,863 in the same period of 1941.

The six-months gross in the Southern district totaled $466,675,542, an increase of 42.2 per cent compared with the same period in 1941, while operating expenses totaled $290,617,178, an increase of 31.2 per cent above 1941.

In the Southern district for June estimated net income was $12,500,000 compared with $6,424,957 in June, 1941. Net railway operating income in June amounted to $17,443,165 compared with $11,572,497 in June, 1941.

Class I roads in the Western district in the six months had an estimated net income of $102,800,000 compared with $21,617,249 in the same period last year. Those same roads in the six months of 1942 had a net railway operating income of $227,582,768, compared with $140,531,649 in the same period in 1941.

Operating revenues in the Western district in the six months totaled $1,239,617,926, an increase of 41.5 per cent compared with the same period in 1941, while operating expenses totaled $813,792,627, an increase of 29.6 per cent above 1941.

In the Western district for June the estimated net income was $31,500,000 compared with $14,739,771 in June, 1941. Net railway operating income in June amounted to $50,673,195 compared with $32,328,897 in June, 1941.

CLASS I RAILROADS—UNITED STATES

Month of June

	1942	1941
Total operating revenues	$623,687,416	$455,022,722
Total operating expenses	378,472,014	298,932,432
Operating ratio—per cent	60.68	65.70
Taxes	110,499,194	51,470,243
Net railway operating income (Earnings before charges)	118,730,968	93,316,121
Net income, after charges (estimated)	77,700,000	52,800,181
Six Months Ended June 30		
Total operating revenues	$3,280,759,026	$2,424,423,816
Total operating expenses	2,157,262,442	1,678,348,896
Operating ratio—per cent	65.75	69.23
Taxes	488,310,898	247,276,242
Net Railway operating income (Earnings before charges)	551,656,630	433,822,005
Net Income, after charges (estimated)	289,100,000	169,993,733

Canada's Railways in the First Half

The Canadian Pacific in June earned operating net in the sum of $4,174,365—the record for that month in the company's history. Gross was $21,244,666 and operating expenses $17,070,301. Increases over June, 1941, were $2,748,401 in gross, $2,642,340 in expenses and $106,061 in net. For the half-year gross was $121,033,092, expenses were $99,085,009 and net was $21,948,083—representing increases, respectively, of $21,192,706, $19,164,317 and $2,028,389 over the first half of 1941.

The Canadian National in June had $31,789,000 as its operating revenue. Expenses totaled $23,843,079 and operating net was $7,945,921. These totals represented increases, respectively, of $6,146,648, $5,029,170 and $1,117,478 over June, last year. For the six months C. N. R. gross was $169,415,000, expenses were $131,396,129, and operating net was $38,018,871. Compared to the first half of 1941, these totals represented the following increases: Gross, $27,699,512; expenses $21,788,852; operating net, $5,910,660.

Track Workers Demand Cushions

Claiming that they were required to ride in box cars, members of a group of negro roadway laborers employed on the Pennsylvania in New Jersey refused to continue work this week because they were not satisfied with the accommodations provided to move them to and from the job. Most of these temporary employees are residents of New York, and the railroad transports them between Jersey City and points on its main line where drainage and grading work is in progress. The difficulty was adjusted when other cars were provided. The men concerned are casual laborers, but organizers affiliated with a C. I. O. union were said to be active in encouraging their claim that the railroad required them to ride in cars without seats and sanitary facilities.

June Locomotive Shipments

June shipments of railroad locomotives totaled 142 as compared with 111 for May and 79 in June, 1941, according to reports made by builders to the Department of Commerce's Bureau of the Census. Shipments for this year's first six months totaled 699 locomotives, including 275 steam, nine electrics, 388 Diesel-electrics, and 27 of other types, as compared with a January-June, 1941, total of 430, including 87 steam, 14 electrics, 301 Diesel-electrics, and 28 of other types.

Unfilled orders at the end of June totaled 1,577 locomotives, including 658 steam, 47 electrics, 819 Diesel-electrics, and 53 of other types. The comparable total as of June 30, 1941, was 876, including 255 steam, 42 electrics, 559 Diesel-electrics, and 20 of other types.

Data supplied by the Car Service Division, Association of American Railroads, on locomotive building in railroad shops show that nine locomotives (four steam and five electrics) were thus produced in June, as compared with seven (all steam) in May, and two steam in June, 1941. During this year's first six months railroad shops produced 40 locomotives, including 30 steam and 10 electrics, as compared with nine, including seven steam and two electrics, in the first six months of last year. As of July 1, railroad shops had unfilled orders for 67 locomotives, including 46 steam and 21 electrics.

'42 Safety Congress Moved

The dates and place of meeting of the thirty-first National Safety Congress and Exposition have been changed since the U. S. Army Air Corps in July took over the Stevens Hotel in Chicago. The meeting will be held October 27 to 29 at the Sherman Hotel, Chicago, and all sessions originally planned will be held at the hours for which they were scheduled, though the locations and dates have been altered.

New Army Camp Named for Late P.R.R. President

Camp Atterbury, near Edinburg, in southern Indiana, will be ready before cold weather to accommodate its quota of service men. This new training post for soldiers is named for the late Gen. W. W. Atterbury, president of the Pennsylvania and director general of transportation of the A. E. F. during World War I, who was born in nearby New Albany, Ind.

10 Track Men are Killed by Passenger Train

A section foreman and nine negro section laborers of a 16-man track gang were killed about 1½ miles west of Warrenton, Mo., on August 4 by the second section of the eastbound Pacific Coast Limited, Wabash passenger train en route to St. Louis. The section gang was surfacing track with pneumatic power tampers near the east end of a curve and apparently the noise of the equipment prevented the men from hearing the approaching train.

New Haven Speeds Ticket Sales

To improve service to passengers at Grand Central Terminal the New Haven has added to its staff three uniformed assistants whose duty is to keep the lines moving at ticket windows, to direct customers to the proper windows, and to answer questions about trains and accommodations. In addition, special ticket windows have been provided for service men on furlough, and extra windows for coach ticket sales, normally used only for peak holiday business, are regularly staffed at rush hours and at week-ends.

Representation of Employees

The National Mediation Board has announced the results of recent elections held in representation of employees cases. On the Nashville, Chattanooga & St. Louis the Nashville, Chattanooga & St. Louis Railway Clerks' Association won the right to continue its representation of the clerks, messengers, and other employees by a vote of 246 to 242 for the Brotherhood of

Railway Clerks. At the same time the Brotherhood of Railway Clerks has been designated to represent the employees commonly known as clerical, office, station and storehouse employees.

On the River Terminal the Board has certified the United Steelworkers of America as the representative of the machinists, boilermakers, carmen, and power house employees.

As the result of voting on the Steelton & Highspire the locomotive engineers and locomotive firemen have chosen the Brotherhood of Locomotive Firemen and Enginemen to represent them; while the Brotherhood of Railroad Trainmen won the right to act for the yardmen (foremen, helpers and switchtenders).

On the Pere Marquette the unlicensed marine personnel on car ferries has chosen the Seafarers' International Union of North America as its representative for purposes of the Railway Labor Act.

The United Steelworkers of America, C. I. O., has been certified by the National Mediation Board as the duly designated representative under the Railway Labor Act of the maintenance of way employees on the Conemaugh & Black Lick.

In another decision the Board announced that the Brotherhood of Maintenance of Way Employees had been chosen to represent the maintenance of way employees on the Philadelphia Belt Line.

Truck Drivers May Get Berths

Relief drivers on long-haul trucks will soon "ride the rods" in luxury, if an arrangement developed in South Carolina is generally adopted. According to "Domestic Commerce," sleeping quarters large enough for two persons and a storage compartment for personal belongings or spare equipment are provided beneath the frame of the truck or trailer in a "berth" with inside dimensions about 3 ft. by 7½ ft. Doors are made in three sections, including a window opposite the occupant's head, and fittings include an innerspring mattress, reading lamp, and buzzer or telephone connection with the driver's cab.

What Can the Small Town Do To Help Win the War?

Railroad men living in small towns may find helpful ideas for community service in war and peace in a recent publication of the Bureau of Foreign and Domestic Commerce of the Department of Commerce, Washington, entitled "Small Town Manual for Community Action!" The first section of the 50-page booklet is concerned with possibilities for united action on the home front to help win the war; it suggests what to do and how to get started. Among the topics discussed in this connection are transportation difficulties, scrap salvage, the farm labor shortage, migration of population, activities within the home, and war bond selling.

The second section of the booklet deals at some length with ways to improve business in the small town. It outlines plans for organizing community effort to prepare for peacetime problems, suggesting ways to analyze local assets and liabilities and plans for active work to secure for the community a substantial business future. The manual is not planned for suburban towns or highly industrialized localities, but for the ordinary small American communities of homes and stores and shops that are strung along almost every railroad line. It is available for 5 cents through the Superintendent of Documents, Washington.

Freight Car Loading

Loadings of revenue freight for the week ended August 1 totaled 863,528 cars, the Association of American Railroads announced on August 6. This was an increase of 8,006 cars or 0.9 per cent above the preceding week, a decrease of 18,494 cars or 2.1 per cent below the corresponding week last year, and an increase of 145,601 cars or 20.3 per cent above the comparable 1940 week.

As reported in last week's issue, loadings of revenue freight for the week ended July 25 totaled 855,522 cars, and the summary for that week, compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For Week Ended Saturday, July 25			
District	1942	1941	1940
Eastern	156,253	189,110	146,405
Allegheny	185,981	198,615	153,777
Pocahontas	56,569	59,293	50,214
Southern	119,663	119,131	97,781
Northwestern	143,339	144,457	119,750
Central Western	124,295	129,993	105,330
Southwestern	69,422	56,965	44,781
Total Western Districts	337,056	331,415	269,861
Total All Roads	855,522	897,564	718,038
Commodities			
Grain and grain products	46,333	55,281	46,024
Live stock	10,668	10,044	9,482
Coal	162,287	168,851	122,109
Coke	13,875	13,295	10,671
Forest products	54,134	47,431	36,078
Ore	90,324	78,533	68,703
Merchandise l.c.l.	87,587	156,022	148,071
Miscellaneous	390,314	368,107	276,900
July 25	855,522	897,564	718,038
July 18	857,067	899,370	730,460
July 11	855,124	876,142	736,783
July 4	753,855	740,359	637,169
June 27	853,441	908,604	752,647
Cumulative Total, 30 Weeks	24,381,573	23,264,167	19,736,985

In Canada.—Carloadings for the week ended July 25 totaled 66,540, an increase of 5.3 per cent over the 63,188 reported a year ago, according to the weekly statement of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
July 25, 1942	66,540	35,872
July 18, 1942	64,989	35,546
July 11, 1942	66,789	37,122
July 26, 1941	63,188	30,727
Cumulative Totals for Canada:		
July 25, 1942	1,897,885	984,381
July 26, 1941	1,739,844	875,433
July 27, 1940	1,520,858	735,344

New York Auto Traffic Drops Sharply in July

A decline of 32.2 per cent in the number of automobiles and trucks using the Holland Tunnel under the Hudson River at New York during July this year, as compared with last year, is an index of the effect of gasoline rationing on motor traffic in the Atlantic coast states. This year 885,530 vehicles used the tunnel against 1,306,782 in 1941, according to figures released by the Port of New York Authority. The mid-town Lincoln Tunnel, used by many interurban bus lines, handled 397,275 vehicles this July, a decrease of about 18 per cent from last year. The George Washington Bridge, crossing the Hudson near the upper edge of New York City, was used in July this year by 729,704 vehicles, a decrease of about 32.9 per cent from the 1,086,707 reported in 1941.

I. C. Stockkeeper Awarded $2,605 for Idea

A stockkeeper on the Illinois Central has been awarded $2,605 for suggesting that certain malleable castings on freight car wheels be replaced with forgings at a substantial saving to the company. The idea was submitted under the Illinois Central Employees Suggestion System which was inaugurated three years ago and the award is the largest amount to an individual thus far. During the three year period, employees have offered 59,120 suggestions, and 6,542 cash awards totaling $67,299 have been paid for ideas that either save or make money for the company.

Southern Roads Granted Fare Increase

Southern railroads have been granted authority by the Interstate Commerce Commission to increase their basic coach fares from 1.65 cents per mile to 2.2 cents, thus bringing them up to the basic rates in effect in other sections. It is expected that the new fares will be placed in effect in the very near future.

The carriers' petition stated that the proposed increase would not result in a reduction in travel, but would wipe out the petitioners' deficit from passenger operations and yield a slight contribution towards return on investment.

Norfolk-Washington Travelers Get Through Coach

Improved passenger service between Norfolk, Va., and Washington, D. C., became available August 2, when the Norfolk & Western, Atlantic Coast Line, and R. F. & P. began operation of a through coach between those terminals, eliminating a change of trains at Richmond. No additional equipment is required, as the roads involved already were operating trains scheduled for close connections at the interchange points. Northbound, the car leaves Norfolk at 1.15 p. m., arriving at Washington at 6.40 p. m. Southbound, it leaves at 11.25 a. m. and arrives at Norfolk at 4.55 p. m. Other minor changes in N. & W. time tables were made.

C. & N. W. Asks Extension of Power Reverse Gear Order

The Chicago & North Western has asked the Interstate Commerce Commission to modify its order of February 28, 1938, so as to extend from September 1, 1942, to December 31, 1943, the time within which it must equip all of its locomotives with a suitable type of power-operated reverse gear.

The petition states that the North Western has been equipping its locomotives as fast as possible, but that it still has 100 steam locomotives unequipped which are

badly needed in road and switching service. To take these engines out of service at the present time, the petition goes on to say, would cause a serious power shortage on the railroad and would be detrimental to the war effort.

At the same time the commission issued a notice saying that the Chicago, Rock Island & Pacific had submitted a similar petition disclosing that it still had 58 locomotives unequipped with power reverse gears. The notice went on to say that the road had had difficulty in getting the gears from manufacturers due to the priority on steel, but that it had been promised eight or ten a month during the next few months.

The commission's notice also said that parties interested in the matter of the Rock Island's application would be given 20 days to reply and that if no replies were received, the commission would take action in the matter.

Mail Committee Gets New Title and Chairman

The organization representing the railroads in handling with the Post Office Department and other government agencies operating and administrative problems arising in connection with transportation of mail is now entitled the Committee on Railway Mail Transportation, instead of the Committee on Railway Mail Pay. P. J. Schardt, assistant vice-president of the Southern, is now chairman of the committee, which continues to maintain offices in Washington. W. A. Worthington, former chairman, remains as an honorary member of the committee, but withdrew from its active direction at the time of his retirement as vice-president of the Southern Pacific, noted in the *Railway Age* of July 11, page 76.

Packing and Loading Manual Prepared by Container Bureau

A manual of packing and loading specifications governing the shipping of empty projectiles and cartridge cases to ordnance depots throughout the country has been prepared by the Freight Container Bureau of the Association of American Railroads, at the request of the War Department. The manual discusses the types of containers that are to be used, as well as the methods of interior packing and bracing which are to be followed. It also illustrates the proper way to load and stow containers in freight cars. The need for this manual developed after the War Department discovered that many shipments of empty projectiles and cartridge cases were being damaged because manufacturers lacked sufficient knowledge of the proper methods of packing and loading.

St. Louis Vs. T. R. R. A. Hearing September 15

The Interstate Commerce Commission will conduct a hearing at the Coronado Hotel at St. Louis, Mo., September 15 on the application of the City of St. Louis for an order to compel the Terminal Railroad Association of St. Louis to remove its elevated tracks from the local river front between the Eads and Municipal bridges, and also on the request of the City of East St. Louis, Ill., for the issuance of an order requiring the T. R. R. A. to erect a new $700,000 union station at Main street and Brady avenue in accordance with an agreement made with that city several years ago. The Illinois Commerce Commission will conduct a hearing on the depot matter at Springfield, Ill., on September 9th. The filing of petitions to the I. C. C. by the two cities was reported in the *Railway Age* of August 1.

The Terminal Railroad Association contends, in a reply filed with the I. C. C., that a new station in East St. Louis could not be built at this time because of war priorities and limitations and also takes the position that the railroad approaches to the Municipal bridge (now the Douglas MacArthur bridge) across the Mississippi river, owned by the City of St. Louis, were constructed "in violation of an Act of Congress" and that it does not want to be a party to a plan "which would require operation over approaches not lawfully constructed."

In addition, the T. R. R. A. contends that the decision to construct a new station at East St. Louis should await a decision on the removal of the elevated tracks in St. Louis and that "if additional freight or passenger trains or both were to be routed through this area (the vicinity of the Relay depot)—the result would be a veritable traffic 'bottleneck.'"

More Boston Commuter Trains

The New Haven will add several trains to its schedules on branches between Boston and South Shore points in Massachusetts, beginning August 10, and schedules of present trains will be adjusted to provide better service to accommodate recent increases in commutation travel due to gasoline rationing. A new round-trip local train will serve points between Boston and

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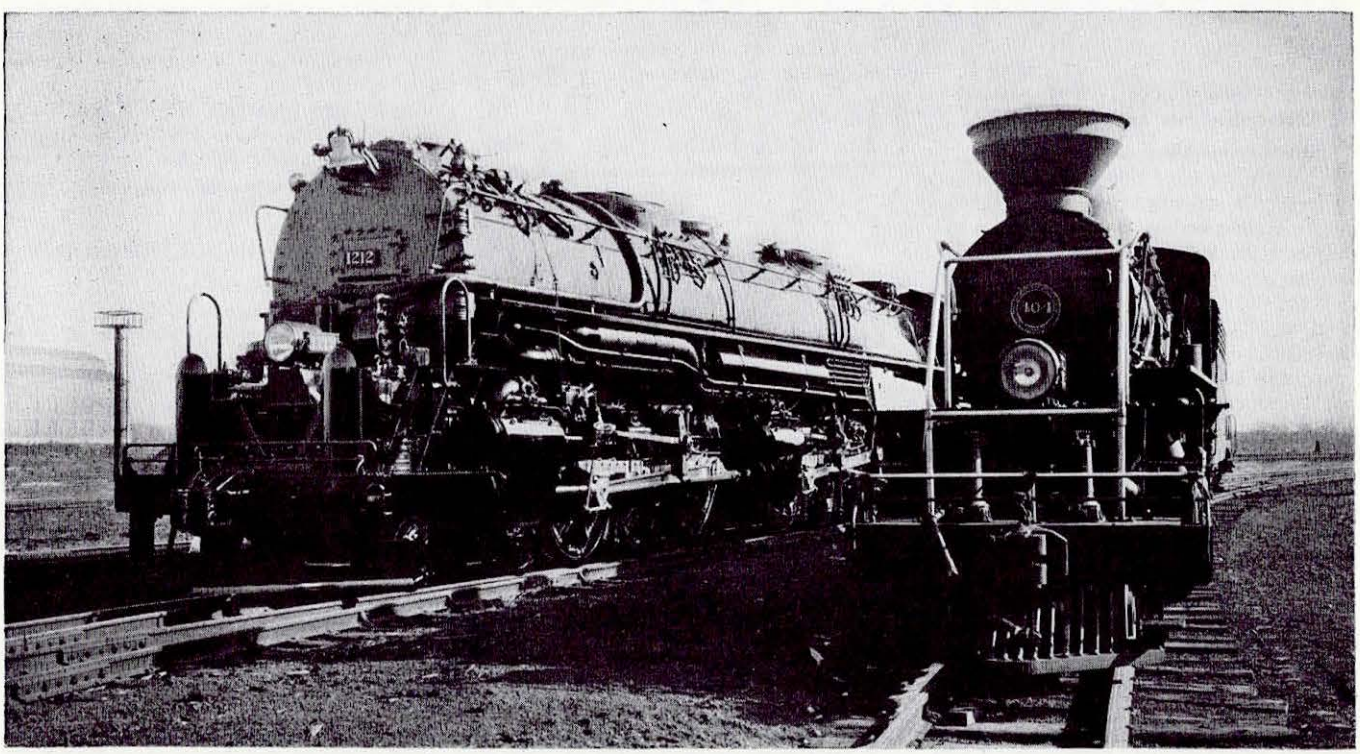


A Contrast in Locomotives—Both Modern

On the right is a meter-gage wood-burning 2-6-6-2 recently built by Baldwin for the E. de F. Goiaz Co. of Brazil. It stands beside one of the Western Maryland's new 4-6-6-4's from the same builders.

Greenbush; a morning train has been added to the Hingham to Boston run; and three more trains are scheduled between Boston and Baintree. The addition of these trains has made it possible to eliminate several stops for which other trains between Boston and Greenbush and Plymouth were scheduled, resulting in faster service for the stations more distant from Boston.

N. H. Dearborn Made Managing Director of Safety Council

Ned H. Dearborn, dean of the Division of General Education of New York University, has been appointed executive vice-president and managing director of the National Safety Council to succeed W. H. Cameron, who is retiring after almost 30 years as managing director of the council. Mr. Dearborn has been dean of the Division of General Education of New York University since 1934. In his new position he will direct the greatly expanded wartime program of the National Safety Council, giving effect to the proclamation by President Roosevelt which is aimed at stopping accidents that are impeding production and delaying victory.

Canadian Lumber Embargoed

Special authority from the Assistant Timber Controller is now required before high grade lumber may be shipped from British Columbia to the United States or elsewhere outside of Canada, according to an announcement from Vancouver, B. C. The regulation applies to fir and hemlock timbers, vertical grain flooring, and particularly to car material of all descriptions. Number 3 common lumber is excepted from the restriction. This measure has been taken to assure an adequate supply of car materials for Canadian railway needs, and it is expected that exceptions will be allowed as soon as the deferred local requirements have been made up.

Advertised Freight Schedules Canceled for the Duration

Railroads operating in Official Classification territory have notified shippers and receivers of freight that all published freight train schedules are withdrawn because of extraordinary demands of the government for war transportation. The announcement from the Traffic Executive Association (Eastern Territory), pointing out that railroads in the West and South already have issued similar notices, indicates that the railroads will continue to use their best efforts to handle all shipments with reasonable dispatch, in accordance with the terms of the Uniform Bill of Lading, but disclaims any liability for failure to maintain the regularity of service or the published schedules heretofore prevailing.

1941 Truck Data Published

Trucks used 21.6 per cent of the gasoline consumed in the United States in 1941. Among individual states the figures varied from 37.7 per cent for Arkansas to 17 per cent for Rhode Island. Along the Atlantic seaboard where gasoline rationing is now effective, trucks used a greater proportion in Maine (32.7 per cent) than in any other state, while in the more populous states the figure was around 20 per cent. These data are included in the current edition of "Motor Truck Facts," published by the Automobile Manufacturers Association, a booklet which gives a variety of selected statistical information about that industry.

Another tabulation in the booklet indicates that while railroads directly serve 56.7 per cent of the communities in the United States they serve 93.2 per cent of the total population. In Nebraska only 1.7 per cent of the population is not directly served by rail, while in New Mexico, low state in this compilation, railroads do not reach 29.6 per cent of the people.

An analysis of receipts of fruits and vegetables at 11 large cities in 1941 indicates that 47.1 per cent of the total number of carload lots received came in by truck. The following table gives the comparative picture for these important cities:

Market	Total Carloads Received	Per cent Received by Rail or Boat
Atlanta	20,435	23.6
Boston	52,765	71.0
Chicago	87,062	75.5
Kansas City	15,653	67.0
Los Angeles	81,063	10.7
New Orleans	10,048	44.5
New York	166,937	55.0
Philadelphia	65,508	48.8
Pittsburgh	31,876	84.4
St. Louis	25,990	73.2
San Francisco	22,974	24.9

Railroads Seek Amendment to Tax Laws

The railroad industry's views on the current tax bill were given to the Senate finance committee on August 5 by R. V. Fletcher, vice-president of the Association of American Railroads. Generally, Mr. Fletcher's presentation followed that made by him before the House ways and means committee on April 1, details of which were set out in the *Railway Age* of April 4, page 717, but he also asked the committee to exempt from taxes a post-war reserve for deferred maintenance and repairs which the carriers have been authorized by the Interstate Commerce Commission to set up.

Mr. Fletcher told the finance committee that unless provision is made for reservation of cash for maintenance and repair work which must be deferred because of war conditions and deductions of the amount so set aside in computing federal income taxes, the income of the railroads will be overstated and taxes will be paid upon income which does not take proper account of the wear and tear of property used in the production thereof.

The railroads, he continued, urge the enactment by Congress of legislation which will permit the deduction for income tax purposes of the deferred maintenance accrued in their accounts upon specific authorization of the commission. The suggested amendments to the revenue code, he said, need not be complicated and should merely provide:

1. Deductions for deferred maintenance based upon prior authorization of the Interstate Commerce Commission and limited to taxable years beginning after December 31, 1941, and during the war period.

2. Investment of the amount of such deferred maintenance in United States Treasury securities to be held in the corporation's treasury until disbursed in settlement of the charges incurred in making good the deferred maintenance.

3. Deferred maintenance not expended within a five-year period beginning with the first day of the first calendar year after peace is declared, by reason of reduction in price level, or otherwise, to be included in taxable income, and a corresponding amount of United States Treasury securities released.

Radio Program on Accident Prevention Extended

The radio program series, "Men, Machines and Victory," will continue through August on Friday nights at 10.30 p. m., E. W. T., on stations of the Blue Network, according to an announcement by its sponsor, the War Production Fund to Conserve Manpower. This group of national business and industrial leaders is engaged in obtaining funds to provide for the expansion of the accident prevention program of the National Safety Council. Its chairman is W. A. Irvin, former president of the United States Steel Corporation, and Thomas W. Lamont of J. P. Morgan & Co. is treasurer. Among railroad officers serving on the executive committee are W. M. Jeffers, president of the Union Pacific, and F. E. Williamson, president of the New York Central.

As a step to make its expanded program effective, the National Safety Council has appointed as its executive vice-president and managing director Ned H. Dearborn, since 1934 dean of the division of general education of New York University, where he developed a center for safety education. The activities of the enlarged program will embrace every phase of accident prevention, including assistance (with funds and personnel) to local councils; formation of new local councils in war production areas where none now exist; emphasis on public safety, especially as affected by migrations and concentrations of population brought on by expanding war production; aid in plant safety programs, both through cooperation with industrial managements and by direct contact with the workers; and multiplied efforts in the war against accidents on the farm and in the home.

Retirement Board Operations

The Railroad Retirement Board has established its headquarters in Chicago, although it is still maintaining an office in Washington, where board members and the general counsel have been provided with offices for the transaction of business requiring their presence in the capital city. As a result of the transfer of the main operations to Chicago, a new administrative structure has been planned to carry out the operations of the board.

Employee annuities in force at the end of May totaled 125,387 and the monthly amount payable was $8,263,894. May figures represent a decline, the first recorded since the beginning of operations, due to the curtailment of operations following the transfer of the board to Chicago and because receipts were not handled in time to offset the usual number of terminations.

Administrative delay was also reflected in total benefit payments certified to the Treasury. Certifications dropped $10,563,-

834 in April to $10,449,134 in May. From July, 1941, through May, 1942, the total certified was $115,856,753, or 4 per cent more than the same period of the preceding fiscal year.

From the inception of the Board through May, the Board had certified $545,982,387, representing 159,692 employee annuities, 48,580 pensions, 3,276 survivor annuities, 6,374 death benefit annuities and 53,882 lump-sum death benefits.

Pension rolls of the Board were augmented by the transfer of 23 employees from the rolls of the Pittsburgh and Conneaut Dock Company, recently held to be covered, with the result that there are now 27,975 pensions in force, of a total monthly amount of $1,649,016.

Claims for unemployment compensation were the lowest since the program was inaugurated. In the last week of May, only 3,350 claims were filed; the weekly average for the month was 4,300, or less than half of the April figure. The ebb in applications for compensation is the result of accelerated railroad activity and the seasonal increase in maintenance of way work. The decline in the number of claims for unemployment benefits, nevertheless, has been less than the rise in the number of railroad employees.

Unemployment insurance benefits certified during the four weeks of May totaled $297,000. The average initial benefit of $16.88 for the week was the highest for the current benefit year. The average daily benefit rate for May was $2.54, on a par with the January rate as the highest in 1942.

Supply Trade

The York Ice Machinery Corporation has moved its Pittsburgh, Pa., offices to the Hostetter building, 7 Ferry Street.

Frank M. Boylan has joined the **Buda Company,** of Harvey, Ill., as a field representative in the industrial division, handling railroad products and lifting jacks.

The Army-Navy production award for high achievement in the production of war equipment has been awarded to **Handy & Harman** and will be formally presented to the company at Bridgeport, Conn., on August 15.

The Army-Navy production award for high achievement in the production of war equipment has been conferred on the **Philco Corporation,** which is now 100 per cent converted to war work. Formal presentation of the award will be made next month.

Robert H. Morse, Jr., branch manager of the Boston, Mass., office of **Fairbanks, Morse & Co.,** has been promoted to assistant sales manager at Chicago and has been succeeded by **John Elmburg,** manager of the Diesel engine department at St. Paul, Minn.

R. L. Robinson has been appointed district sales manager for the Brake Shoe and Castings division and the Southern Wheel division of the **American Brake Shoe & Foundry Co.,** with headquarters in St. Louis, Mo. Mr. Robinson was formerly purchasing agent for the Pittsburgh & West Virginia and joined the American Brake Shoe as a salesman at Pittsburgh, Pa., in 1928. He was transferred to the Chicago sales staff in 1934.

George R. Berger, 845 South Wabash Avenue, Chicago, has been appointed railroad representative in the United States for the sale of Equatemp insulating felts for refrigerator and passenger cars for the **Charles Lachman Co., Inc.,** of Phoenixville, Pa. Mr. Berger began his business career with the Westinghouse Electric & Manufacturing Co. at Newark, N. J., in 1898. Two years later he entered railway service on the Lake Shore & Michigan Southern at Cleveland, Ohio, becoming chief electrician of that road in 1901. He was associated with the New York Central during the following year in a similar capacity at Mott Haven, N. Y. In 1902, Mr. Berger joined the Gould Coupler Company and the Gould Storage Battery Company at Depew, N. Y., in an engineering

George R. Berger

capacity and was appointed their joint western representative, with headquarters in Chicago, in 1904. In 1925 he became manager of western sales and, following the reorganization and segregation of the car coupler and car lighting businesses in 1926, he continued as manager of western sales with the newly incorporated Gould Car Lighting Corporation. On June 1, 1927, he resigned to enter the railway supply business on his own account as a manufacturer's representative. Mr. Berger was elected president of the Railway Electrical Supply Manufacturers Association in 1927.

C. J. Werlich, representative of the **Westinghouse Air Brake Company** at St. Paul, Minn., since 1929, has been appointed southwestern manager, with headquarters at St. Louis, Mo., to fill the position left vacant by the recent death of **D. W. Lloyd.** Prior to joining the Air Brake Company as a mechanical expert in 1920, Mr. Werlich had served as fireman, locomotive engineer and traveling engineer with the Chicago, St. Paul, Minneapolis & Omaha. **T. W. Baldwin** will succeed Mr. Werlich as representative at St. Paul. Mr. Baldwin joined the Air Brake Company as mechanical expert in 1930, after many years of service as a locomotive engineer on the Chicago, Milwaukee, St. Paul & Pacific, and mechanical expert for the Locomotive Stoker Company. **J. G. Gannon,** mechanical expert at St. Louis since 1940, has been advanced to the position of district engineer.

TRADE PUBLICATIONS

WELDING EQUIPMENT FOR RAILROAD SERVICE.—Flexarc welders, electrodes and accessories for all five types of railroad service—maintenance of way, shop maintenance, roundhouse maintenance, car building, and general repairs, maintenance and construction—are described and illustrated in Bulletin B-3050 issued by the Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.

Construction

WAR DEPARTMENT.—The U. S. Engineer Office at Los Angeles, Cal., has recently awarded contracts for track construction at two locations in Arizona and five locations in California. The projects call for the construction of a total of approximately 34 miles of track at a cost of about $563,000. The U. S. Engineer Office at San Francisco, Cal., has recently awarded two contracts for construction and extension of railroad storage yards in California, one to Eaton & Smith, San Francisco, and the other to C. L. Harney, San Francisco, both in amount less than $1,000,000. The U. S. Engineer Office, Denison, Tex., has recently awarded a contract to Martin & Grace, Dallas, Tex., in amount less than $50,000, for the construction of a railroad spur to an air force station in Oklahoma, and a contract to the Missouri-Kansas-Texas in amount less than $50,000 for the construction of an additional railroad spur to an air field in Texas.

The U. S. Engineer Office at Galveston, Tex., has recently awarded contracts for railroad construction in Texas as follows: Under $100,000 to McGinnis & Grafe, Houston, Tex., and under $100,000 to Martin & Grace and W. Smith, Dallas, Tex. The U. S. Engineer Office at Little Rock has recently negotiated two contracts as follows: With the Chicago, Rock Island & Pacific in amount less than $100,000 for the construction of approximately two miles of access railroad to an air field in Arkansas and with the R. J. Reid Contracting Company in amount less than $200,000 for the construction of approximately 5½ miles of access railroad to an air field in Arkansas.

Other contracts recently awarded are as follows: U. S. Engineer Office, New York, to the Reading Company in amount less than $50,000 for the construction of railroad facilities in New Jersey; U. S. Engineer Office, Pittsburgh, Pa., to the National Construction Company, Cleveland, Ohio, in amount less than $50,000 for excavation and drainage for a railroad in Ohio; U. S. Engineer Office, Ft. Peck,

Mont., to Northwest Engineering Company, Rapid City, S. D., in amount less than $500,000 for the grading of a storage area and the construction of roads and railroads in South Dakota; U. S. Engineer Office, Detroit, Mich., to Jones Contracting Company, Highland Park, Mich., in amount less than $50,000 for the construction of railroad sidings in Ohio; U. S. Engineer Office, San Antonio, Tex., to Austin Bridge Company, Dallas, Tex., in amount less than $100,000 for the construction of railroad in Texas; and U. S. Engineer Office, Baltimore, Md., to the Western Maryland in amount less than $50,000 for the construction of railroad sidings in Maryland.

Financial

ATLANTIC COAST LINE.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon the following branches:

1. From Four Holes, S. C., to Pregnall, 8.2 miles, and
2. From Kissimmee, Fla., to Narcoossee, 13.8 miles.

BALTIMORE & OHIO.—*Abandonment by the Baltimore & Philadelphia.*—The Baltimore & Philadelphia and the Baltimore & Ohio, respectively, have asked the Interstate Commerce Commission for authority to abandon a line and the operation thereof extending from Southwood, Del., to the end of the line at Landenberg, Pa., three miles.

CHICAGO & NORTH WESTERN.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon a line extending from Hunting, Wis., to Big Falls, 5.5 miles.

CHICAGO, ROCK ISLAND & PACIFIC.—*Abandonment.*—This company has asked authority from the Interstate Commerce Commission to abandon a line extending from Avaco, Iowa, to Carson, 17.7 miles.

DEATH VALLEY.—*Deficit Status.*—Division 4 of the Interstate Commerce Commission has found that this company is not entitled to benefit under section 204 of the Transportation Act of 1920, as amended January 7, 1941, for any losses which it may have incurred during the period of private operation in the federal control period of the last war. Due to the incompleteness of the company's records Division 4 found that it is impossible to ascertain what amount, if any, is payable under the provisions of section 204, and has dismissed the company's claim.

DELAWARE & HUDSON.—*Construction of Branch Line.*—Company has begun construction of a 30-mile railroad in northern New York from North Creek to the newly reopened Lake Sanford mine of the National Lead Company. The new single-track line will be financed and owned by the Defense Plant Corporation, R. F. C. subsidiary.

DELAWARE, LACKAWANNA & WESTERN.—*Control.*—This company has been granted authority by Division 4 of the Interstate Commerce Commission to acquire control of the Greene through ownership of its stock. The line extends from Chenango Forks, N. Y., to Greene, 8.1 miles, and forms a connecting link in the company's Binghamton-Utica line.

DELAWARE, LACKAWANNA & WESTERN.—*Income Taxes of Leased Lines.*—A new board of directors of the Morris & Essex, subsidiary of the Delaware, Lackawanna & Western, was elected July 31. The new board was sought because of a court decision holding the Lackawanna not liable for federal income taxes payable by the M. & E. The independent board was formed to seek a court decision to force the Lackawanna to pay the taxes. An action of this kind was started on July 26 in the United States district court at Newark, N. J., by stockholders of the Warren Railroad which sought to compel the Lackawanna to continue to pay the 7 per cent dividend it guaranteed on the stock of the Warren without deduction for federal income taxes.

GREAT NORTHERN.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon a line extending from Evansville, Minn., to Tintah, 32 miles.

LAONA & NORTHERN.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon its so-called Silver Lake branch extending southwesterly from a connection with its main line one mile west of Snyders, Wis., to the end of the branch at valuation station 470—00, 8.9 miles.

LOUISIANA & ARKANSAS.—*Purchase.*—Acting on this company's request, Division 4 of the Interstate Commerce Commission has dismissed its application in Finance Docket No. 11531 for authority to purchase the properties of the Rock Island, Arkansas & Louisiana.

MISSOURI PACIFIC.—*Abandonment by the San Benito & Rio Grande Valley.*—The San Benito & Rio Grande Valley has been granted authority by Division 4 of the Interstate Commerce Commission to abandon the following lines:

1. From La Paloma, Tex., to the end of the line at Santander, 5.9 miles;
2. From Rio Hondo, Tex., to the end of the branch at La Leona, 9.3 miles; and
3. From Ohio Junction, Tex., to Boulevard Junction, 6.4 miles.

NEW YORK CENTRAL.—*Makes Offer for Rail Stock.*—The New York Central has offered to purchase, on or before October 1, all of the 1,640 shares of 5 per cent preferred stock of the St. Joseph, South Bend & Southern at $100 per share, and all the 4,800 common shares at $22.50 per share. The offer is subject to approval by the Interstate Commerce Commission and is contingent upon the acceptance of 95 per cent of each class of stock. The road has been leased by the New York Central since 1900.

MISSOURI PACIFIC.—*Creditors' Petition Denied.*—The federal district court at St. Louis, Mo., on July 27, denied the petition of certain creditors of the Missouri Pacific for payment of $14,433,500 in underlying first mortgage bonds on property between St. Louis and Kansas City. Among the objectors to the petition was Guy A. Thompson, trustee, who contended that cash securities of the road were insufficient to retire the bonds with accrued interest. He charged in an answer that the petition was an attempt by the debtor board of directors to change the railroad's plan of reorganization approved by the court in 1941 and thus lend weight to the debtor board's appeal now pending before a higher court.

NORTHERN PACIFIC.—*Equipment Trust Certificates.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to assume liability for $2,500,000 of two per cent serial equipment trust certificates, maturing in 10 equal annual installments of $250,000 on August 15 in each of the years from 1943 to 1952, inclusive. The issue has been sold at 99.1399 to Shields & Co. and Bear, Stearns & Co., making the average annual cost to the company approximately 2.17 per cent.

PACIFIC COAST.—*Abandonment.*—This company would be denied authority to abandon its Taylor branch extending from a connection with its main line at Maple Valley, Wash., to the end of the line at Taylor, 8.7 miles, if Division 4 of the Interstate Commerce Commission adopts a proposed report of its Examiner R. Romero. The denial of authority would be without prejudice to a renewal of the application after the expiration of the present calendar year.

PHILADELPHIA, BETHLEHEM & NEW ENGLAND.—*Deficit Status.*—Division 4 of the Interstate Commerce Commission has found that this company is not entitled to the benefits of section 204 of the Transportation Act of 1920, as amended January 7, 1941, for any deficits which it may have incurred during private operation in the federal control period. As a result of the finding the company's claim has been dismissed.

READING.—*Bonds of the Philadelphia, Newton & New York.*—The Philadelphia, Newton & New York has asked the Interstate Commerce Commission for authority to extend from October 1, 1942, to October 1, 1967, the maturity date of $1,600,000 of its mortgage bonds with the interest rate for the extended period at three per cent. The application states that $1,093,000 of the bonds bear interest at the rate of five per cent and $507,000 are three per cent bonds.

At the same time the Reading has asked authority to guarantee the principal of and the interest on the bonds as extended.

ST. LOUIS-SAN FRANCISCO.—Abandonment.—This company has been granted authority by Division 4 of the Interstate Commerce Commission to abandon a line of railroad extending from McNair, Ark., to Dills, 91.2 miles.

ST. LOUIS-SAN FRANCISCO.—*Court Rejects Plan.*—The federal district court at St. Louis on July 25, rejected the Interstate Commerce Commission reorganiza-

tion plan for the St. Louis-San Francisco and sent it back to the Commission for reconsideration. The reorganization plan, Judge Moore held, incorrectly gave preference to claims of the Reconstruction Finance Corporation and the Railroad Credit Corporation to the detriment of other creditors of the railroad. In so ruling, he upheld objections to the plan aired at hearings by holders of consolidated mortgage bonds and others. Under the Commission's plan about $7,000,000 par value of the first and general mortgage bonds provided for in the plan were assigned to the RFC and the RCC, and this amount of bonds was taken away from the holders of the lien bonds and the consolidated bonds.

SOUTHERN PACIFIC. — *Abandonment.* — This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon operation of a portion of a branch line extending from Hollister, Calif., to the end of the line at Tres Pinos, 5.4 miles.

SOUTHERN PACIFIC.—*Operation by the Pacific Electric.*—The Pacific Electric has asked the Interstate Commerce Commission for authority to operate a branch line to be constructed and owned by the United States Government and extending from Los Angeles, Calif., to Long Beach, 2.7 miles.

UNION PACIFIC.—*Abandonment by the Saratoga & Encampment Valley.*—The Saratoga & Encampment Valley and the Union Pacific, respectively, have asked the Interstate Commerce Commission for authority to abandon a line and the operation thereof extending from Walcott, Wyo., to Encampment, 48 miles.

UNION PACIFIC.—*Abandonment by the Los Angeles & Salt Lake.*—The Los Angeles & Salt Lake and the Union Pacific, respectively, have been authorized by Division 4 of the Interstate Commerce Commission to abandon the so-called Frisco branch and the operation thereof extending from Milford, Utah, to the end of the branch at Frisco, 16.4 miles.

The authority was granted subject to the condition that the company will sell the line within 60 days to anyone who is willing to purchase it for continued operation and who is willing to pay a price not less than its fair net salvage value. Commissioner Miller noted a dissent, but gave no reason for his action.

VIRGINIAN.—*Abandonment and Acquisition of Trackage Rights.*—This company has asked the Interstate Commerce Commission for authority to abandon operations under trackage rights over a line of the Chesapeake & Ohio extending from Station 502 plus 54 to Station 343 plus 83, a distance of 3.3 miles, all in Fayette County, W. Va.

At the same time the company desires authority to acquire trackage rights over an alternate line of the C. & O. extending from Kilsyth Junction, W. Va., to Glen Jean, 3.5 miles. The C. & O. is abandoning the first line, thus necessitating the Virginian to operate over the alternate line which serves approximately the same territory.

Railway Officers

EXECUTIVE

R. L. Gebhardt, executive assistant to the trustee of the New York, Ontario & Western, has been elected vice-president—operations, with headquarters as before at New York.

OPERATING

J. E. Mulick, assistant superintendent of the Union Pacific at Las Vegas, Nev., has been transferred to Laramie, Wyo.

O. H. Osborn, acting superintendent of the Gulf division of the Gulf, Colorado & Santa Fe, has been promoted to superintendent of that division, with headquarters at Galveston, Tex.

J. A. Nobert has been appointed assistant superintendent of the Laurentian division of the Canadian National, with headquarters at Montreal, Que., succeeding **F. E. Hartshorn,** who has retired on pension.

T. B. Girard, superintendent of car service of the New York, Ontario & Western, with headquarters at Middletown, N. Y., has been promoted to superintendent of transportation. The position of superintendent of car service has been abolished.

G. F. Tedards has been appointed trainmaster of the Charleston & Western Carolina, with headquarters at Augusta, Ga. **M. B. Oliver,** roadmaster, has been appointed assistant to general superintendent, with headquarters as before at Augusta.

H. K. Morrison has been appointed terminal engineer, Montreal terminals, Canadian National, succeeding **W. H. Kyle,** who has been appointed assistant superintendent, passenger terminal, Montreal, Que. **O. J. Travers** has been appointed rule and mechanical instructor, Northern Ontario district, with headquarters at North Bay, Ont.

A. H. Woerner, superintendent of the Indianapolis division of the Baltimore & Ohio, with headquarters at Indianapolis, Ind., has been transferred to the St. Louis division, with headquarters at Washington, Ind., succeeding **E. C. Cavey,** who has been granted a leave of absence to serve with the Office of Defense Transportation.

J. P. Hoff, assistant trainmaster of the Illinois Central at Centreville, Miss., has been promoted to trainmaster at Baton Rouge, La., with jurisdiction over the Vicksburg, Natchez, Clinton and Woodville districts, succeeding **C. N. Campbell,** who has been transferred to the Baton Rouge and Hammond districts, with the same headquarters, replacing **C. A. Knight,** assigned to other duties.

C. H. House, assistant superintendent of the Saratoga-Champlain division of the Delaware & Hudson, with headquarters at Plattsburg, N. Y., has been promoted to superintendent of that division, with headquarters at Albany, N. Y., succeeding **J. E. Fairhead,** whose death on July 24 was reported in the *Railway Age* of August 1. **H. C. Jehu,** trainmaster, has been promoted to assistant superintendent, succeeding Mr. House. **G. H. Bonville** has been appointed chief train dispatcher, Saratoga-Champlain division, south of Whitehall, succeeding **M. E. Dilts,** who has been promoted to trainmaster, to succeed Mr. Jehu.

Frederic R. Bartles, whose promotion to general manager of the Lines west of Livingston, Mont., of the Northern Pacific, with headquarters at Seattle, Wash., was reported in the *Railway Age* of June 20, was born at Williamsport, Pa., on February 28, 1875, and attended Lehigh University. He entered railway service in 1897 with the Pennsylvania and served with the New York Central & Hudson River (now New York Central) from 1899 to 1905 and with the Panama Canal Company from 1905 to 1907. On May 10, 1907, he went with the Northern Pacific as inspector in the division engineer's office at Brainerd, Minn., and on June 1, 1907, he was promoted to supervisor of bridges and buildings at Dilworth, Minn., later being transferred successively to Fargo, N. D., Buffalo, N. D., and back to Dilworth. On March 1, 1911, Mr. Bartles was advanced to trainmaster of the Pasco division and on January 1, 1914, he was promoted to superintendent of the Fargo division, later being transferred successively to Minnesota division and the Rocky Mountain division. On September 5, 1918, he was granted a leave of absence to enter military service, returning as superintendent of the Rocky Mountain division on July 7, 1919. On March 8, 1924, he was transferred to the Seattle division, with headquarters at Seattle, and on December 15, 1931, he was promoted to assistant general manager of the Eastern district, with headquarters at St. Paul, Minn. Mr. Bartles was transferred to the Lines west of Livingston, with headquarters at Seattle on February 1, 1940, which position he held until his recent promotion, effective June 16.

Arthur B. Kelly, assistant general manager of the Gulf Coast Lines (Missouri Pacific) and assistant general manager and superintendent of the transportation of the International-Great Northern (also Missouri Pacific), with headquarters at Palestine, Tex., has been promoted to general manager of both roads (Texas lines of the Missouri Pacific), with headquarters at Houston, Tex., succeeding **William G. Choate,** who retired on August 1. **W. E. Lamb,** general superintendent of the Southern district of the Missouri Pacific, with headquarters at Little Rock, Ark., has been advanced to assistant general manager at Palestine, replacing Mr. Kelly, and **C. A. Fink,** superintendent of the Wichita-Joplin-White River division, with headquarters at Wichita, Kan., has been promoted to general superintendent at Little Rock, relieving Mr. Lamb. **R. C. Wildeboor,** trainmaster at Wichita, has been advanced to superinten-

dent at that point, succeeding Mr. Fink.

Mr. Kelly was born at Omaha, Neb., on December 28, 1883, and entered railway service on April 22, 1901, as a messenger boy on the Missouri Pacific at Omaha. In June, 1903, he became a telegraph operator at Omaha and six years later he was

Arthur B. Kelly

promoted to dispatcher at Falls City, Neb. In November, 1916, he was advanced to acting chief dispatcher and the following year he was appointed chief dispatcher. In April, 1918, he was promoted to acting trainmaster at Falls City and three months later he was appointed trainmaster at Coffeyville, Kan. From May, 1925, to August, 1925, he was inspector of transportation at St. Louis, Mo., and on the latter date was appointed trainmaster of terminals at Little Rock. Mr. Kelly was advanced to superintendent of the San Antonio division of the I.-G. N., with headquarters at San Antonio, Tex., on October 15, 1926, later being transferred to Palestine. On February 1, 1939, he was advanced to assistant general manager of the Texas lines of the Missouri Pacific, which position he held until his recent promotion.

William G. Choate

Mr. Choate was born at Taunton, Mass., on November 28, 1865, and attended Peekskill Military Academy and Hobart College. He entered railway service in 1886 as fireman on the Union Pacific, later serving as a brakeman and then becoming a rodman in the engineering department at Denver, Colo. Mr. Choate was later promoted to assistant engineer and then to roadmaster and, in 1890 he went with the Rio Grande Junction (now part of the Denver & Rio Grande Western) as a construction engineer. A year later he was promoted to superintendent and in 1901 he went with the El Paso & Southwestern (now part of the Southern Pacific) as general manager in charge of construction and operation. In 1904 he went with the Southern as superintendent of the Alexandria division and a year later he returned to the Rio Grande Junction as superintendent. In 1908 he resigned to engage in lumber business in Mexico and in 1909 he returned to railroad work as general manager of the Oklahoma Central (now part of the Atchison, Topeka & Santa Fe). Mr. Choate went with the Gulf Coast Lines in 1916 as superintendent of the Louisiana division and in 1918 he was advanced to assistant to the president. In 1919 he was made assistant general manager and in 1922 he was advanced to general manager. In 1925, when the Missouri Pacific acquired the Gulf Coast Lines, Mr. Choate was appointed general manager of the Texas lines of

W. E. Lamb

the Missouri Pacific, which position he held until his retirement.

Mr. Lamb was born at Pelahatchie, Miss., on August 20, 1885, and entered railway service in May, 1900, with the Gulf & Ship Island, serving with this company, the Vicksburg, Shreveport & Pacific, the Louisiana & Arkansas and the Louisiana Railway & Navigation Company as clerk, agent, operator, dispatcher and chief dispatcher, until July, 1906, when he entered the service of the Missouri Pacific as a dispatcher at McGehee, Ark. In the following year, Mr. Lamb was transferred to Monroe, La., and in July, 1911, he returned to McGehee as chief dispatcher. In March, 1917, he was advanced to trainmaster and, after serving in this capacity at various points, he was further advanced to superintendent on June 1, 1924, in which capacity he served successively at Van Buren, Ark., Monroe, La., Little Rock, and Falls City, Neb. On March 1, 1936, he was promoted to general superintendent of the Southern district with headquarters at Little Rock, which position he held until his recent promotion.

Mr. Fink entered the service of the Missouri Pacific in 1920 as a dispatcher at Illmo, Mo., later being transferred to Falls City, Neb., and Jefferson City, Mo., and being advanced to chief dispatcher at Little Rock. Mr. Fink then served successively as trainmaster at Little Rock, Coffeyville, Kan., and Arkansas City, Kan.,

C. A. Fink

and assistant superintendent at Atchison, Kan. In February, 1936, he was promoted to superintendent of the Eastern and Kansas City Terminal divisions, with headquarters at Kansas City, Mo., and on January 16, 1937, he was transferred to the Wichita-Joplin-White River division, which position he held until his recent promotion.

Mr. Wildeboor began his railroad career with the Missouri Pacific in 1911, and spent his first 11 years as a yard clerk at Pleasant Hill, Mo., and Kansas City, Mo. He was advanced to the job of yardmaster at Kansas City in 1922, and four years later he was made general yardmaster at Coffeyville. In 1929 he became assistant trainmaster at Osawatomie, Kan., and in 1932 was given additional duties as general yardmaster there. The same year he spent several months as acting assistant superintendent at Coffeyville, and, in 1933, Mr. Wildeboor became trainmaster at Coffeyville. Since January 1, 1936, until his recent promotion, he has been trainmaster at Wichita, Kan.

FINANCIAL, LEGAL AND ACCOUNTING

J. H. Barron, auditor of freight and passenger accounts of the St. Louis Southwestern at Tyler, Tex., has been appointed auditor of freight accounts for the Texas lines and **R. R. Bradford** has been appointed auditor of passenger accounts, System lines, both with headquarters at Tyler.

D. V. Cowden, real estate and tax commissioner of the Southern Pacific, with headquarters at San Francisco, Cal., retired on August 1, and that position has been abolished. **H. B. Harding,** assistant to the real estate and tax commissioner, has been appointed tax commissioner.

John Henry Spence, chief disbursements accountant of the Canadian National, has been appointed auditor of overcharge claims, with headquarters at Montreal, Que., succeeding **Henry Fulton Parker,**

News Department continued on next left-hand page

HEAVIER LOADS AND HIGHER SPEEDS

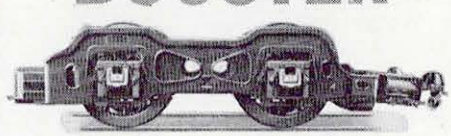
from existing locomotives

The war has placed a tremendous load on the railroads. At the same time it has eliminated new power; therefore, they must increase the capacity of existing power to meet war time demands.

The solution — the Franklin System of Steam Distribution and the Locomotive Booster.*

They are easily applied and provide increased capacity, greater power and higher speeds.

THE FRANKLIN SYSTEM OF Steam Distribution AND THE LOCOMOTIVE BOOSTER



*Trade Mark Registered U. S. Patent Office

FRANKLIN RAILWAY SUPPLY COMPANY, INC. NEW YORK CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

who has retired under the company's pension regulations, after 41 years of continuous railway service.

Mr. Spence was born, educated and started railway work at Montreal, his first position being office boy in the office of the auditor of freight accounts in 1902. He was promoted to clerk in January, 1906, and ten years later he was transferred to the office of the auditor of revenues. In June, 1918, he was appointed traveling auditor and became chief clerk of overcharge claims in October, 1919. On March 1, 1923, he was promoted to assistant auditor of overcharge claims and in September, 1932, he became chief accountant. He became special auditor in the internal audit department in August, 1938, and less than a year later he was promoted to chief disbursements accountant, which position he held until his recent appointment.

Mr. Parker was born at Dartmouth, N. S., on July 25, 1877, and entered railroad service with the Canadian Northern as a division clerk in the local freight office in August, 1901. A year later he became interline rate clerk in the audit office and in December, 1910, he was promoted to chief clerk of freight receipts. In March, 1916, he became an adjuster of freight overcharges and in November, 1918, he became auditor of freight overcharges at Toronto, Ont. In 1923 Mr. Parker was appointed auditor of overcharge claims at Montreal, which position he held until his retirement.

TRAFFIC

Harold E. Fee, commercial agent of the Erie at Philadelphia, Pa., has been promoted to general agent at Baltimore, Md., succeeding **Eugene W. Vail,** retired.

B. S. Holland has been appointed traveling freight agent of the Virginian, with headquarters at Charlotte, N. C., succeeding **R. E. Ross,** who has been furloughed for the duration of the war.

Leo J. Perry, traveling agent of the Chicago & North Western System at Spooner, Wis., has been promoted to general agent at Duluth, Minn., succeeding **J. D. Mahon,** who retired on August 1.

W. W. Fair, chief clerk to the general passenger agent of the Texas & Pacific at Dallas, Tex., has been promoted to assistant general passenger agent, with the same headquarters.

Frank G. Maxwell, general freight agent of the Wabash at St. Louis, Mo., has been promoted to traffic manager of the Ann Arbor (controlled by the Wabash), with headquarters at Toledo, Ohio, succeeding **H. S. Bradley,** who died of a heart ailment in a hospital at Toledo on July 18. **George W. Young,** assistant to the general freight traffic manager of the Wabash at St. Louis, Mo., has been advanced to general freight agent, relieving Mr. Maxwell, and **Walter A. Gleiber,** chief clerk in the traffic department at St. Louis, has been promoted to assistant to the general freight traffic manager, replacing Mr. Young.

Mr. Maxwell was born at Craig, Mo., on July 6, 1891. After a normal school and business college education, Mr. Maxwell entered railway service with the Wabash on September 13, 1906, as a clerk and stenographer in the office of the division storekeeper at Moberly, Mo. In the following year he was transferred to the division freight and passenger office, with the same headquarters, where he remained until 1909. From the latter year until 1913, Mr. Maxwell served as secretary to the assistant general freight agent and to the general freight agent at St. Louis, then being appoined secretary to the general traffic manager at the same point. In 1916, he was appointed assistant chief clerk to the general traffic manager, holding this position until February, 1918, when he joined the U. S. Army, serving in France with the railway engineers. At the close of the war he returned to the Wabash as chief clerk in the general traffic department at St. Louis, being advanced to the position of assistant to the vice-president in charge of traffic, in 1923. Five years later he was appointed assistant general freight agent, solicitation, and in 1937 he was placed in charge of the St. Louis agency with the same title. On January

Frank G. Maxwell

1, 1938, Mr. Maxwell was promoted to general freight agent, which position he held until his recent promotion, effective July 25.

ENGINEERING & SIGNALING

R. E. Patterson, regional engineer of the Lehigh Valley at Buffalo, N. Y., has been appointed acting chief engineer, construction-maintenance, with headquarters at Bethlehem, Pa.

J. S. Webb, whose promotion to signal engineer of the Atlantic Coast Line at Wilmington, N. C., was reported in the *Railway Age* of August 1, was born in Baltimore, Md., on July 22, 1893, and was graduated from Baltimore Polytechnic Institute in June, 1912. He entered railway service on July 1, 1912, as a helper on signal construction with the Washington Terminal Company and in September, 1912, he went with the Baltimore & Ohio as a lampman in the signal maintenance force at Havre de Grace, Md., later being promoted to batteryman. In May, 1913, Mr. Webb was appointed a signal draftsman in the office of the signal engineer at Baltimore, Md., and on January 1, 1914, he was furloughed. Shortly thereafter, he entered the service of the United Railways & Electric Company, in the office of the chief engineer at Baltimore and in April, 1916, he

J. S. Webb

returned to the B. & O. as a circuit draftsman in the office of the signal engineer. In September, 1917, he went with the Western Maryland as chief draftsman in the signal department. Three years later, he was promoted to inspector and on February 1, 1940, he was advanced to signal and telephone engineer. Mr. Webb went with the Atlantic Coast Line in April, 1942, as assistant superintendent of signals, which position he held until his recent promotion.

Roy E. Taylor, whose appointment as signal engineer of the New York, New Haven & Hartford at New Haven, Conn., was reported in the *Railway Age* of July 11, was born at Shapleigh, Me., on March 7, 1884. Mr. Taylor entered the service of the New Haven as a draughtsman on December 1, 1906, and was appointed inspector on December 17, 1910. He became as-

Roy E. Taylor

sistant engineer on September 6, 1912, and chief draughtsman on July 16, 1915. On July 1, 1925, Mr. Taylor was appointed office engineer, again becoming chief draughtsman on March 1, 1933. He was appointed draughtsman on September 21, 1934, and general draughtsman on April 1,

1936, returning to the position of office engineer on May 1, 1940. He was appointed office and construction engineer on April 16, 1941, which position he held until his recent appointment as signal engineer, effective July 1.

William A. Ford, whose appointment as general signal supervisor of the New York, New Haven & Hartford at New

William A. Ford

Haven, Conn., was reported in the *Railway Age* of July 11, entered the service of the New Haven on July 13, 1910. He served successively as tracer, repairman, draftsman, instructor, assistant engineer and chief draftsman. On April 16, 1941, he was appointed field and shop engineer, which position he held until his recent appointment as general signal supervisor.

H. T. Bradley, valuation engineer of the Gulf Coast Lines and the International-Great Northern (Missouri Pacific), with headquarters at Houston, Tex., has been promoted to valuation engineer of the Missouri Pacific Lines, with headquarters at St. Louis, Mo., succeeding **H. C. Searls,** who retired on August 1. **H. M. Noel,** roadmaster of the Missouri Pacific at St. Louis, has been promoted to division engineer at Poplar Bluff, Mo., relieving **J. W. Treadwell,** whose promotion to assistant superintendent at Pueblo, Colo., is reported elsewhere in these columns.

Mr. Bradley was born at Three Oaks, Mich., on February 10, 1892, and graduated from Butler University. He entered railway service in 1910 with the Indianapolis Union Railway and from 1912 to 1916 worked for various consulting engineers. He re-entered railway service in 1916 with the Chicago & North Western and a year later became chief engineer of the Meridan & Memphis and the Jackson & Eastern (both now parts of the Gulf, Mobile & Ohio). In 1918 he became chief pilot engineer of the El Paso & Southwestern (now part of the Southern Pacific) and later that year joined the U. S. Navy. In 1919 he returned to railway service as an instrumentman on the Gulf Coast Lines, later being advanced to assistant engineer. In 1924 he was made valuation engineer of the Gulf Coast Lines, and, following the consolidation of the Texas lines of the Missouri Pacific in 1925, became valuation engineer of all the Texas Lines properties.

Mr. Searls attended the University of Nebraska and began railroading as a draftsman for a western railroad in 1902, and went with the Missouri Pacific as a rodman at Osawatomie, Kan., in 1905. The same year he worked two months as assistant engineer at Nevada, Mo., and then was transferred to St. Louis with the same title. From 1909 to 1916, Mr. Searls was division engineer of construction, and since 1916 has served as valuation engineer.

PURCHASES AND STORES

George L. Mitchell, assistant to the executive vice-president and assistant secretary of the Atlantic Coast Line, has been appointed to the newly created position of assistant purchasing agent, with headquarters as before at Wilmington, N. C.

Alonzo B. Sears, whose promotion to assistant general storekeeper of the Atchison, Topeka & Santa Fe, with headquarters at Topeka, Kan., was reported in the *Railway Age* of June 20, was born at Santa Fe, N. M., on March 16, 1897, and attended business college from January to May,

Alonzo B. Sears

1914. He entered railway service on July 26, 1912, as a laborer in the fuel department at San Marcial, N. M., later serving as laborer and then foreman in the store department at that point. On February 1, 1918, he was transferred to Raton, N. M., as a clerk in the store department, later serving as foreman. Mr. Sears was promoted to division storekeeper at Waynoka, Okla., on January 1, 1926, and was transferred to Ottawa, Kan., on August 1, 1929. On September 1, 1936, he was appointed storekeeper at Wichita, Kan., and on December 1, 1940, he was advanced to general foreman of the general store at Topeka, which position he held until his recent appointment, effective June 15.

MECHANICAL

E. Y. Nitrauer, shop superintendent of the Erie at Susquehanna, Pa., has been transferred to Port Jervis, N. Y., succeeding **P. M. Mitchell,** whose appointment as chief shop inspector at Cleveland, Ohio, was reported in the *Railway Age* of July 25. **L. E. Schuette,** division car foreman of the Mahoning division, with headquarters at Brier Hill, Ohio, has been appointed shop superintendent at Susquehanna, succeeding Mr. Nitrauer.

Ben M. Brown, assistant general superintendent of motive power of the Southern Pacific, has been promoted to general superintendent of motive power, with

Ben M. Brown

headquarters as before at San Francisco, Cal., succeeding **George McCormick,** who retired on July 31. **S. M. Houston,** assistant superintendent of motive power at Los Angeles, Cal., has been advanced to assistant general superintendent of motive power, with headquarters at San Francisco, replacing Mr. Brown, and **F. E. Russell, Jr.,** master mechanic at El Paso, Tex., has been promoted to assistant superintendent of motive power at Los Angeles, relieving Mr. Houston. **D. R. Calleri,** assistant master mechanic at Roseville, Cal., has been advanced to master mechanic at El Paso, succeeding Mr. Russell.

Mr. McCormick was born at Columbus, Tex., on July 15, 1872, and graduated in mechanical engineering from the Agricul-

George McCormick

tural and Mechanical College (now Texas A. & M.) at Bryan, Tex., in 1891. He entered railway service on October 5, 1891, as a machinist apprentice with the Galveston, Harrisburg & San Antonio (now part of the Southern Pacific Lines in Texas and Louisiana) at Houston, later being

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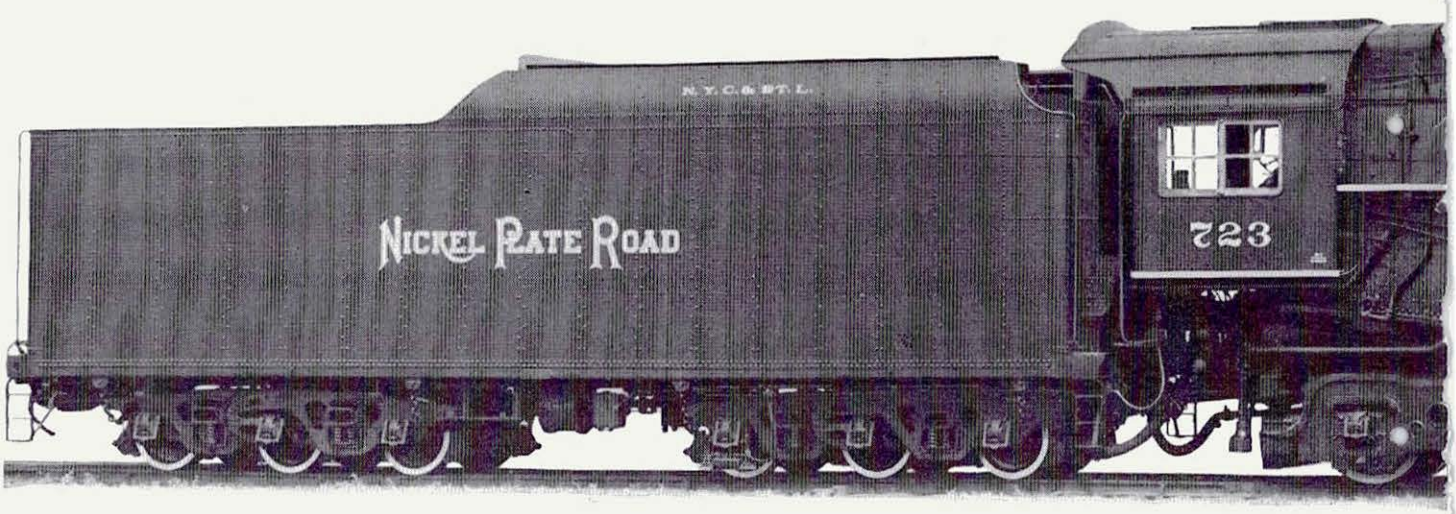
fifteen 2-8-4's



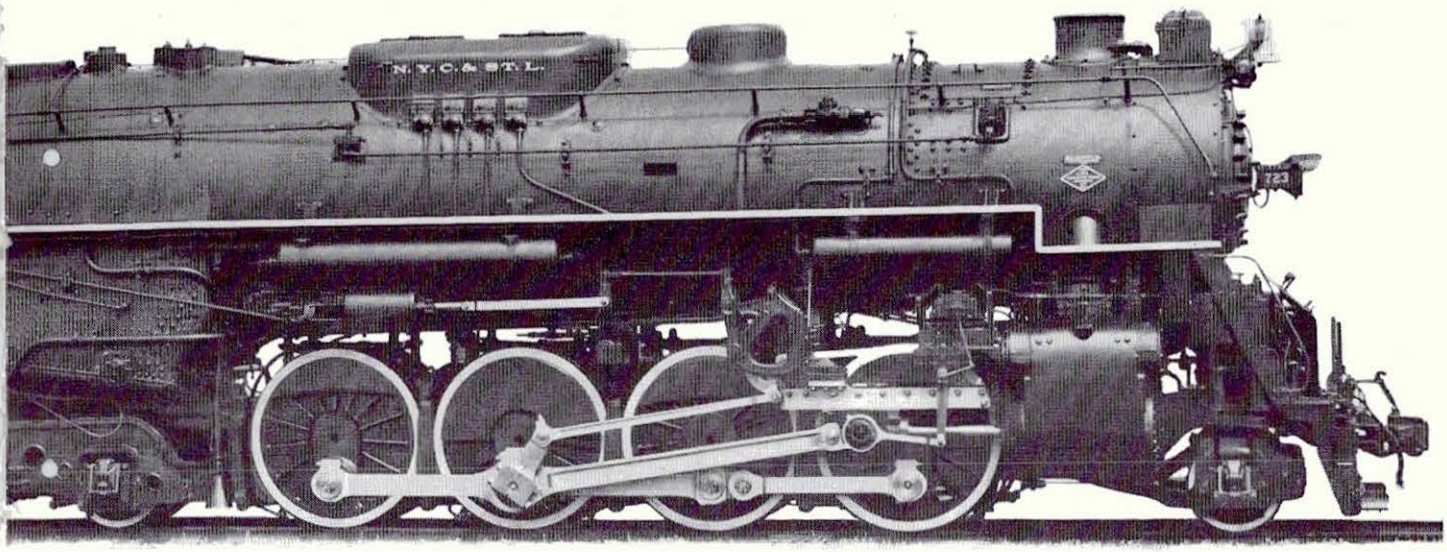
NEW YORK, CHICAGO & ST. LOUIS R. R. CO.

Weight in Working Order, Pounds					
On Drivers	Engine Truck	Trailer Truck	Total Engine	Tender Loaded 2/3 of Capacity	
64,500 each 258,000	53,500	50,500 F 59,000 B	421,000	283,400	
Wheel Base			Tractive Effort	Tender Capacity	
Driving	Engine	Eng. & Tender		Coal	Water
18'-3"	42'-0"	87'-8¾"	64,100 lbs.	22 ton	22,000 gal.
Boiler		Cylinders		Driving Wheel	
Dia.	Pressure	Dia.	Stroke	Dia.	
87 15/16" O.D.	245 lbs.	25"	34"	69"	

LIMA LOCOMOTIVE WORKS INCORPORATED

LIMA LOCOMOTIVE WORKS

for Nickel Plate



One of fifteen high-speed, 2-8-4 type freight locomotives just delivered to the Nickel Plate Road by the Lima Locomotive Works, Incorporated.

They come at a most opportune time to assist in meeting the unprecedented demand for maximum ton miles per train hour.

Now, more than ever, the continuous hauling of heavier freight at higher speeds is of vital importance to the preservation of our American way of life.

INCORPORATED, LIMA, OHIO

promoted to draftsman in 1893 and transferred to San Antonio in 1894. He returned to Houston in 1895 as chief draftsman. In 1900 he was promoted to mechanical engineer and in December, 1911, he was advanced to assistant superintendent of the El Paso division, with headquarters at El Paso, Tex. In February, 1913, Mr. McCormick was promoted to assistant general manager (mechanical) of the Southern Pacific, Texas lines, with headquarters at Houston and in December, 1916, he was advanced to general superintendent of motive power of the Pacific lines, with headquarters at San Francisco, which position he held until his retirement. During the Spanish-American War, Mr. McCormick served as captain of the famous Houston Light Guards and later in that capacity took a leading part in property protection and rehabilitation work following the Galveston Flood. Mr. McCormick invented many safety devices for locomotives, including an improvement in the design and application of locomotive boiler drop plugs to prevent boiler explosions, retaining clips to prevent loose tires from slipping off wheel centers and a truck pedestal safety tie bar. He also invented a system of oil lubrication for locomotive driving boxes and other bearings. He has

S. M. Houston

been responsible for the development of outstanding types of motive power on the Southern Pacific, including the streamlined Daylight type of locomotive and the cab-ahead articulated-consolidation locomotives. In recognition of his many contributions to railroad engineering, he was named a "modern pioneer" by the National Association of Manufacturers in 1940, and in 1941 was awarded the honorary degree of Doctor of Engineering by his alma mater, Texas A. & M. He has served on numerous important committees of the Mechanical division of the Association of American Railroads, and was elected a member of the General committee of the Mechanical division in 1939.

Mr. Brown was born at Rockport, Tex., on June 15, 1890, and also graduated in mechanical engineering from Texas A. & M. in 1911. He entered railway service on June 15, 1911, as a special apprentice on the Galveston, Harrisburg & San Antonio, later serving as draftsman at Houston, Tex., and apprentice instructor at the San Antonio (Tex.) shops. In 1914 he was promoted to roundhouse foreman at Beaumont, Tex., later serving as drop-pit foreman at Houston and roundhouse foreman at El Paso. In 1916 Mr. Brown was advanced to general shop foreman at Houston and in 1919 he was promoted to master mechanic at El Paso. In 1923 he was further advanced to assistant superintendent of motive power and equipment of the Southern Pacific Lines in Louisiana, with headquarters at Algiers, La., and two years later he returned to the Texas lines as chief assistant superintendent of motive power, with headquarters at Houston. On November 15, 1936, Mr. Brown was transferred to the Southern Pacific, Pacific lines, as assistant general superintendent of motive power, with headquarters at San Francisco, which position he held until his recent promotion.

Mr. Houston started railroad work as a machinist apprentice with the Arizona Eastern (now controlled by the Southern Pacific) in 1913, advancing through various positions to master mechanic in 1923. In 1924 he was transferred to the Southern Pacific of Mexico as shop superintendent at Empalme, Son., later being promoted successively to superintendent of motive power and assistant general manager. In 1937 Mr. Houston was appointed assistant master mechanic of the Western division of the Southern Pacific at West Oakland, Cal., and a year later he was advanced to master mechanic. He was promoted to assistant superintendent of motive power at Los Angeles in March, 1939, which position he held until his recent promotion.

SPECIAL

The jurisdiction of **H. E. Roll,** chief personnel officer of the Missouri Pacific, with headquarters at St. Louis, Mo., has been extended over the Gulf Coast Lines and the International-Great Northern.

OBITUARY

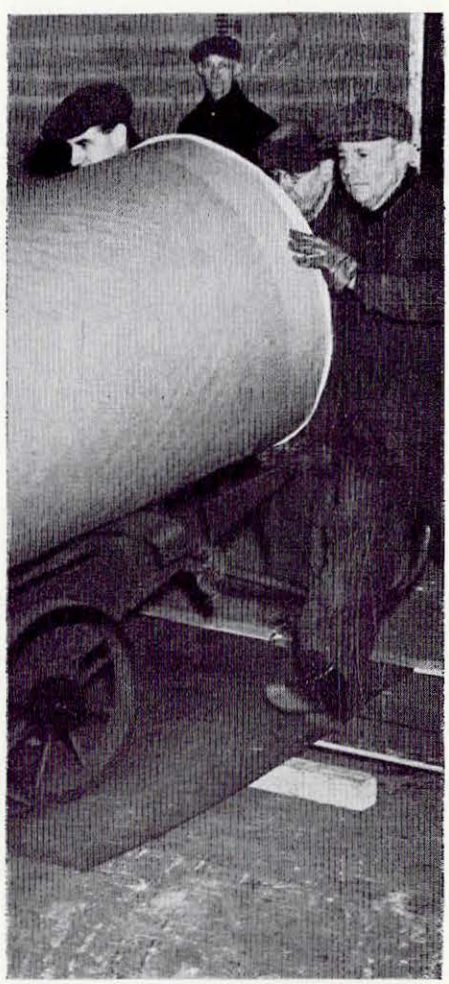
William T. Fowler, president and general counsel of the Frankfort & Cincinnati since 1927, with headquarters at Lexington, Ky., died of a cerebral hemorrhage at his home in that city on July 30.

Charles James, who retired as superintendent of motive power of the Erie on February 28, 1938, died at his home in Shaker Heights, Ohio, on July 24 in his 76th year. Mr. James entered the service of the Erie as machinist at Huntington, Ind., on December 19, 1890, and was appointed superintendent of motive power on November 1, 1927, with headquarters at New York, being transferred to Cleveland, Ohio, in 1931. Prior to going with the Erie Mr. James served for ten years with the Lake Shore & Michigan Southern (New York Central).

Edwin F. Adams, who retired on June 1, 1936, as general passenger agent of the Gulf, Colorado & Santa Fe, with headquarters at Galveston, Tex., died at his home in that city on June 22. Mr. Adams was born at Hudson, Mich., on March 19, 1858, and entered railway service in 1878 as a messenger in the Chicago ticket office of the Chicago, Burlington & Quincy. From November, 1879, to April, 1888, he was a clerk in the passenger department of the Baltimore & Ohio. In January, 1890, he went with the Santa Fe as a ticket agent at Chicago and in 1893 he was transferred to Galveston. In 1909 he was transferred to assistant general passenger agent and in 1927 to general passenger agent, which position he held until his retirement.

Henry A. Koach, retired manager of the Railway Ticket Protective Bureau, with headquarters at Chicago, died at Sarasota, Fla., on August 1. Mr. Koach was born in New York on August 1, 1865, and entered the service of the bureau at the time of its organization in February, 1903, as field representative. Later he was promoted to assistant to the chairman and in 1933 was made assistant chairman. On May 1, 1934 he was advanced to manager in charge of all bureau activities, which position he held until his retirement on October 1, 1937. After his retirement, Mr. Koach moved to Sarasota and became founder of the Sarasota branch of the National Association of Retired and Veteran Railway Employees. Mr. Koach was an officer in the famous 22nd New York regiment.

* * *



Proper Stowing Helps to Secure Heavier Loading of Cars

Table of Revenues and Expenses begins on next left-hand page

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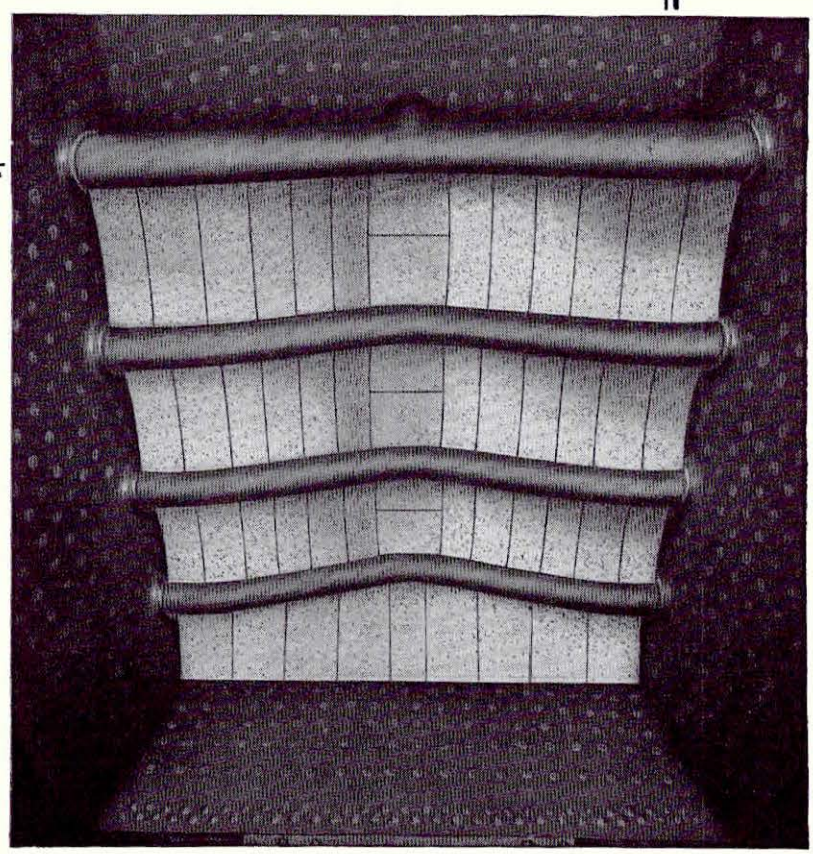

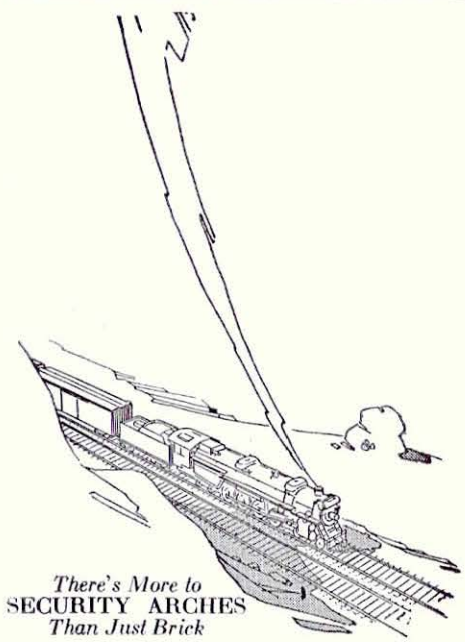

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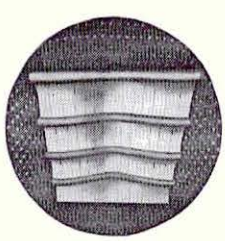

AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1942

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1942	1941
Akron, Canton & Youngstown	June	171	$261,253	$104	$270,929	$56,827	$31,712	$14,350	$76,341	$190,851	70.4	$80,078	$53,650	$39,106	$60,288
	6 mos.	171	1,543,289	419	1,601,035	252,358	172,805	91,675	477,066	1,062,662	66.4	538,373	377,782	295,699	369,565
Alton	June	959	1,944,310	459,175	2,676,019	349,176	379,766	51,061	805,699	1,679,300	62.8	996,719	570,954	356,341	266,334
	6 mos.	959	9,871,224	2,114,900	13,401,447	1,448,653	1,946,881	297,936	5,083,819	9,341,796	69.7	4,059,651	2,832,177	1,660,672	768,286
Atchison, Topeka & Santa Fe System	June	13,363	25,048,688	4,035,636	30,869,487	3,292,646	4,585,358	464,468	8,060,003	16,833,784	54.5	14,035,703	6,640,791	6,109,623	3,346,274
	6 mos.	13,365	122,381,483	18,713,496	151,227,321	16,235,511	25,575,488	2,916,114	44,844,756	92,230,042	61.0	58,997,279	28,366,670	27,549,308	13,847,475
Atlanta & West Point	June	93	213,905	95,872	339,643	26,987	34,103	9,145	95,404	180,386	53.1	159,257	86,249	66,900	13,436
	6 mos.	93	1,163,271	381,551	1,719,509	152,888	207,113	54,658	583,057	1,081,958	62.9	637,551	342,677	232,153	78,507
Western of Alabama	June	133	230,730	97,602	365,537	32,240	41,346	9,102	104,624	201,387	55.1	164,150	85,282	77,234	19,065
	6 mos.	133	1,293,264	394,232	1,855,206	173,862	248,830	53,942	577,660	1,131,511	61.0	723,695	367,030	333,259	101,466
Atlanta, Birmingham & Coast	June	639	408,874	24,703	458,846	54,601	64,922	26,777	177,105	342,880	74.7	115,966	88,062	58,629	30,578
	6 mos.	639	2,220,525	193,333	2,563,712	318,876	374,620	159,647	1,071,268	2,032,065	79.3	531,647	369,255	171,061	46,494
Atlantic Coast Line	June	5,008	7,038,297	1,930,925	9,407,085	663,975	1,391,224	168,686	2,630,128	5,124,183	54.5	4,282,902	2,182,902	1,784,369	815,947
	6 mos.	5,008	38,086,971	10,672,616	51,967,245	3,719,087	8,125,570	1,094,309	15,861,043	30,556,290	58.8	21,410,955	13,855,955	12,091,028	6,884,634
Charleston & Western Carolina	June	343	319,701	6,686	331,937	36,044	46,666	10,103	97,418	197,324	59.4	134,613	79,613	75,034	97,100
	6 mos.	343	1,837,452	49,761	1,925,747	199,959	277,272	60,433	588,177	1,164,331	60.5	761,416	491,416	467,632	471,834
Baltimore & Ohio	June	6,248	22,366,720	2,306,681	25,953,206	2,569,492	5,228,373	467,988	7,816,119	16,967,722	65.4	8,985,484	5,675,930	5,010,420	4,939,565
	6 mos.	6,261	122,761,343	10,582,746	139,975,570	11,933,633	30,962,036	2,753,889	46,868,904	97,246,453	69.5	42,729,117	28,895,695	25,798,585	22,255,043
Staten Island Rapid Transit	June	24	113,426	87,002	209,208	15,608	27,139	1,088	85,725	145,595	69.6	63,613	34,970	26,029	1,769
	6 mos.	24	596,379	460,872	1,106,888	86,240	156,622	7,292	537,501	869,774	78.6	237,114	71,259	13,894	—94,928
Bangor & Aroostook	June	603	303,172	57,065	391,177	106,349	98,850	4,642	113,486	349,179	89.3	41,998	10,467	44,765	46,430
	6 mos.	603	3,449,578	226,207	3,820,694	575,529	568,443	33,709	958,839	2,294,637	60.1	1,526,057	873,520	938,325	923,973
Bessemer & Lake Erie	June	214	2,397,752	819	2,412,905	158,958	468,248	12,752	340,556	1,016,987	42.1	1,395,918	377,592	446,398	1,079,662
	6 mos.	214	9,442,227	4,752	9,530,534	884,125	3,449,099	83,139	1,725,783	6,374,316	66.9	3,156,218	1,054,208	1,579,684	3,440,093
Boston & Maine	June	1,865	5,014,574	1,291,078	6,914,680	849,941	903,485	72,371	2,066,694	4,075,442	58.9	2,839,238	1,694,972	1,424,924	1,040,095
	6 mos.	1,865	27,387,543	6,049,560	36,717,034	4,300,751	5,363,120	420,669	12,659,108	23,845,226	64.9	12,871,808	8,166,475	6,336,400	4,967,049
Burlington, Rock Island	June	228	75,706	40,924	125,525	20,542	17,921	2,414	42,924	94,843	75.6	30,682	21,076	19,233	7,466
	6 mos.	243	479,318	198,777	730,515	117,497	116,905	14,440	313,141	629,841	86.2	100,674	42,979	6,179	—33,049
Cambria & Indiana	June	37	183,357	.....	183,432	7,446	58,880	464	19,114	91,776	50.03	91,656	533	74,447	85,175
	6 mos.	37	1,048,769	.....	1,049,190	47,331	353,875	2,941	108,455	551,080	52.52	498,110	—4,799	431,340	414,125
Canadian Pacific Lines in Maine	June	234	237,612	54,609	311,427	56,622	50,200	6,538	91,990	212,315	68.2	99,112	83,874	67,046	—35,912
	6 mos.	234	2,264,194	293,545	2,661,603	311,850	346,739	40,658	810,674	1,550,791	58.3	1,110,812	1,015,997	858,138	618,755
Canadian Pacific Lines in Vermont	June	90	110,264	8,410	130,159	37,556	25,442	2,373	74,476	143,467	110.2	—13,308	—20,952	—47,245	—18,216
	6 mos.	90	574,737	46,110	687,565	147,323	146,345	14,594	472,422	801,674	116.6	—114,109	—160,495	—308,257	—187,525
Central of Georgia	June	1,815	1,909,582	405,210	2,458,446	234,325	384,725	61,493	769,239	1,548,391	63.0	910,055	761,401	706,168	390,665
	6 mos.	1,815	9,967,406	1,806,726	12,796,728	1,399,542	2,086,090	362,631	4,710,564	9,146,528	71.5	3,650,200	2,810,476	2,684,061	1,763,432
Central of New Jersey	June	661	4,114,838	590,306	4,977,473	580,110	861,711	49,166	1,809,283	3,410,213	68.5	1,567,260	1,025,721	713,110	774,665
	6 mos.	661	22,727,950	2,887,624	27,111,257	2,646,528	4,697,744	289,708	10,587,084	18,865,588	69.6	8,245,669	5,460,800	3,669,639	1,810,141
Central Vermont	June	422	620,268	58,000	723,837	84,007	89,957	10,998	245,641	453,022	62.6	270,815	238,021	200,311	186,541
	6 mos.	422	3,387,654	280,000	3,904,192	484,326	602,098	66,231	1,557,632	2,841,654	72.8	1,062,538	876,898	632,136	720,782
Chesapeake & Ohio	June	3,118	14,824,076	938,531	16,377,317	1,377,037	2,605,036	214,451	3,486,613	8,061,259	49.2	8,316,058	2,479,744	2,681,738	4,892,895
	6 mos.	3,123	77,365,302	3,980,140	84,160,380	8,178,345	14,785,500	1,331,932	19,851,784	46,268,842	55.0	37,891,538	13,804,212	15,184,068	19,007,107
Chicago & Eastern Illinois	June	925	1,365,711	342,346	1,883,002	201,689	343,071	58,944	623,959	1,309,028	69.5	573,974	383,974	243,420	119,073
	6 mos.	925	7,631,975	1,596,546	10,225,717	1,086,774	1,846,482	363,467	3,787,936	7,544,256	73.8	2,681,461	1,831,461	1,101,156	1,038,573
Chicago & Illinois Midland	June	131	436,881	779	463,404	67,316	88,026	20,606	136,456	334,029	72.1	129,375	72,947	62,013	143,747
	6 mos.	131	2,865,972	4,606	3,000,791	333,086	506,932	130,919	752,873	1,855,290	61.8	1,145,501	454,093	398,000	568,786
Chicago & North Western	June	8,265	9,119,485	1,744,742	11,827,363	1,442,893	1,910,342	193,835	3,640,222	7,565,674	64.0	4,261,689	2,833,882	2,726,445	1,901,100
	6 mos.	8,265	47,963,866	8,186,324	61,859,607	7,311,660	11,782,979	1,167,013	22,041,114	44,608,447	72.1	17,251,160	10,883,363	9,791,718	7,292,554
Chicago, Burlington & Quincy	June	9,085	10,117,101	1,544,813	12,801,806	1,955,972	2,152,014	256,060	3,663,707	8,446,764	66.0	4,355,042	2,320,949	2,157,404	1,016,291
	6 mos.	9,090	55,406,888	7,013,533	68,838,252	8,113,197	11,131,521	1,505,917	21,777,627	44,859,018	65.2	23,979,234	12,467,637	11,521,761	7,335,282
Chicago Great Western	June	1,502	1,769,780	108,864	2,004,803	232,744	269,867	60,727	670,624	1,299,653	64.8	705,150	362,821	186,892	249,596
	6 mos.	1,502	10,336,744	570,104	11,668,399	1,354,894	1,644,158	371,078	4,213,399	7,952,714	68.2	3,715,685	2,304,723	1,214,696	1,271,368
Chicago, Indianapolis & Louisville	June	549	782,160	60,436	911,912	114,214	169,994	30,999	295,161	646,617	70.9	265,295	215,363	165,379	156,838
	6 mos.	549	4,871,185	310,672	5,578,833	539,243	1,007,657	178,319	1,840,058	3,783,007	67.8	1,795,826	1,498,478	1,099,702	770,507

Table of Revenues and Expenses continued on next left-hand page

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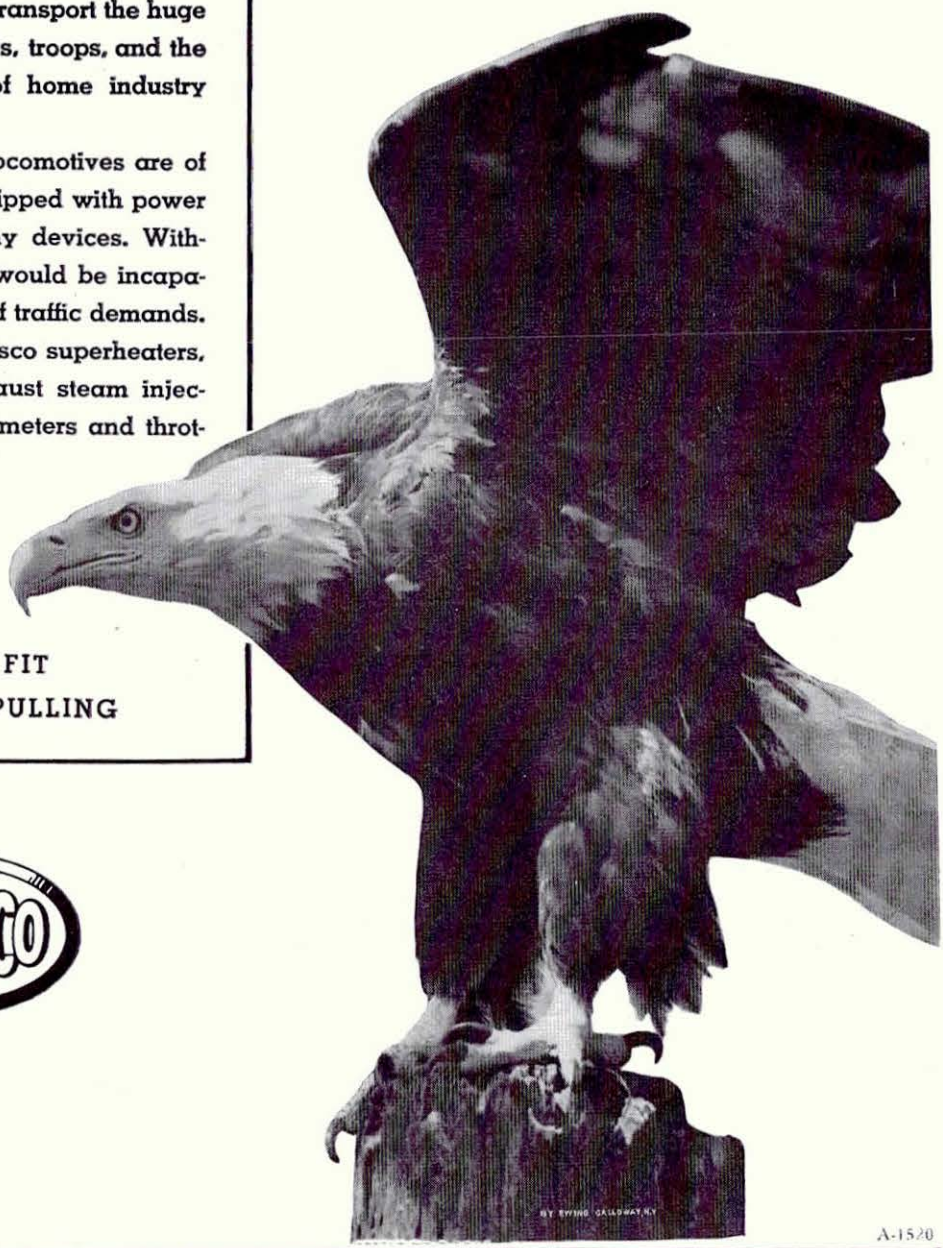

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues			Operating expenses					Operating ratio	Net from railway operation	Operating income	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1942	1941
Chicago, Milwaukee, St. Paul & Pacific	June	10,821	$11,541,354	$1,387,982	$14,264,351	$2,847,045	$2,212,324	$241,519	$4,297,854	$10,093,276	70.8	$4,171,075	$2,396,075	$2,047,881	$1,699,143
	6 mos.	10,821	66,240,385	6,336,715	79,560,992	11,237,434	12,426,620	1,404,794	26,896,677	54,875,319	69.0	24,685,673	15,524,673	13,581,357	11,132,386
Chicago, Rock Island & Pacific	June	7,925	7,891,086	1,887,186	10,511,291	1,337,054	1,525,523	287,744	3,243,316	6,827,582	65.0	3,683,709	3,141,115	2,823,066	1,506,899
	6 mos.	7,930	44,263,592	8,822,189	57,112,108	6,236,261	9,148,181	1,724,495	19,529,829	39,233,910	68.7	17,878,198	14,660,191	12,619,597	7,692,202
Chicago, St. Paul, Minneapolis & Omaha	June	1,629	1,570,749	215,068	1,916,129	300,562	312,333	41,620	758,306	1,483,422	77.4	432,707	307,691	219,362	144,361
	6 mos.	1,629	8,975,464	1,042,574	10,725,615	1,363,213	1,866,911	247,558	4,710,632	8,610,744	80.3	2,114,871	1,366,229	813,011	426,162
Clinchfield Railroad	June	308	1,015,849	7,130	1,028,777	54,833	135,741	21,985	194,382	428,284	41.6	600,493	495,427	505,153	527,215
	6 mos.	308	5,951,353	30,353	6,018,309	324,792	868,545	127,959	1,189,663	2,627,165	43.7	3,391,144	2,763,075	2,793,453	2,746,712
Colorado & Southern	June	755	645,886	151,534	860,133	109,937	134,909	14,659	270,863	565,587	65.8	294,546	234,768	208,433	18,833
	6 mos.	755	3,498,778	689,325	4,550,320	415,407	802,830	88,657	1,627,404	3,128,651	68.8	1,421,669	1,076,730	954,141	353,318
Fort Worth & Denver City	June	804	574,868	178,447	860,400	67,966	114,693	20,807	226,450	475,441	55.3	384,959	345,334	312,906	80,679
	6 mos.	804	2,622,801	980,402	4,207,821	442,010	633,911	127,531	1,302,897	2,753,734	65.4	1,454,087	1,221,799	1,050,318	290,007
Colorado & Wyoming	June	42	103,386	.....	159,748	24,478	14,686	885	52,877	97,237	60.9	62,511	—11,585	—12,209	28,549
	6 mos.	42	557,127	.....	885,612	94,797	78,030	5,325	312,229	516,734	58.3	368,878	138,614	136,009	217,051
Columbus & Greenville	June	168	87,654	3,361	98,075	24,541	17,304	4,042	34,573	92,342	94.2	5,733	—1,598	1,048	13,579
	6 mos.	168	552,006	17,959	608,001	137,417	107,643	27,174	211,875	554,587	91.2	53,414	—10,217	1,268	64,367
Delaware & Hudson	June	849	3,847,074	114,042	4,050,055	425,073	755,014	46,535	1,224,684	2,557,827	63.2	1,492,228	875,159	781,780	825,829
	6 mos.	849	20,889,617	616,249	22,006,863	2,109,145	4,284,204	269,393	7,140,664	14,426,025	65.6	7,580,838	4,833,205	4,435,729	3,546,022
Delaware, Lackawanna & Western	June	985	4,880,240	768,450	6,256,747	677,351	955,654	114,536	2,227,361	4,140,980	66.2	2,115,767	1,042,767	1,013,523	1,184,895
	6 mos.	985	27,322,434	4,013,956	34,533,393	2,949,518	5,368,482	664,102	13,581,447	23,500,039	68.1	11,033,354	5,473,354	5,228,146	5,286,112
Denver & Rio Grande Western	June	2,422	3,682,642	323,910	4,215,403	374,282	738,420	87,849	1,118,228	2,448,654	58.1	1,766,749	1,526,968	1,509,502	282,016
	6 mos.	2,428	18,577,357	1,510,027	21,069,806	1,674,602	4,218,971	532,096	6,862,465	13,991,023	66.4	7,078,783	5,690,845	5,514,318	548,650
Denver & Salt Lake	June	232	192,551	4,576	206,889	39,280	48,268	2,565	68,328	168,440	81.4	38,449	10,842	63,649	3,943
	6 mos.	232	1,091,518	30,265	1,176,529	172,011	266,961	15,799	412,116	926,080	78.7	250,449	94,595	392,237	210,529
Detroit & Mackinac	June	242	70,450	4,499	84,916	19,329	12,587	611	26,686	62,428	73.5	22,488	18,734	15,165	14,495
	6 mos.	242	362,149	20,005	435,196	70,939	77,879	4,227	160,116	332,845	76.5	102,351	80,996	58,081	1,096
Detroit & Toledo Shore Line	June	50	290,334	.....	291,571	45,116	23,947	9,074	78,324	164,358	56.4	127,213	82,508	41,376	63,551
	6 mos.	50	2,093,887	.....	2,101,460	187,026	156,624	55,020	563,718	1,010,816	48.1	1,090,644	717,036	385,233	501,558
Detroit, Toledo & Ironton	June	465	561,721	552	602,728	70,393	104,460	13,588	159,784	370,025	61.4	232,703	131,116	128,061	252,268
	6 mos.	465	4,042,637	2,349	4,252,972	455,273	673,304	83,206	1,070,772	2,419,493	56.9	1,833,479	1,075,937	981,856	1,607,209
Duluth, Missabe & Iron Range	June	544	4,762,055	2,237	5,575,539	281,487	368,057	4,778	792,398	1,479,959	26.5	4,095,580	969,111	977,780	2,617,330
	6 mos.	543	13,211,188	8,692	15,391,535	1,508,283	2,042,332	25,892	2,901,878	6,689,360	43.5	8,702,175	2,274,236	2,259,286	4,155,523
Duluth, Winnipeg & Pacific	June	175	154,000	1,000	158,100	35,127	22,522	1,986	62,416	125,671	79.5	32,429	19,662	2,332	13,432
	6 mos.	175	1,067,700	5,300	1,092,500	187,893	150,000	12,085	403,674	774,145	70.9	318,355	234,025	108,722	17,813
Elgin, Joliet & Eastern	June	392	2,402,168	18	2,724,705	223,929	544,609	15,844	927,123	1,761,980	64.7	962,725	349,621	236,571	625,025
	6 mos.	392	14,462,094	83	16,276,377	1,168,113	3,130,224	99,151	5,601,404	10,306,795	63.3	5,969,582	2,178,995	1,393,768	3,349,208
Erie	June	2,251	10,010,646	620,494	11,474,074	1,101,008	1,838,610	189,873	3,653,921	7,115,487	62.0	4,358,587	2,723,852	2,208,343	2,009,129
	6 mos.	2,251	56,437,759	3,232,783	63,436,427	5,826,383	10,552,289	1,171,829	21,791,389	41,276,539	65.1	22,159,888	13,250,827	10,879,250	10,166,391
Florida East Coast	June	685	682,116	480,208	1,252,384	176,148	168,837	30,878	383,645	836,426	66.8	415,958	344,917	324,545	—92,249
	6 mos.	685	5,330,242	2,971,466	9,112,819	878,891	1,057,553	201,058	2,794,093	5,464,452	60.0	3,648,367	3,184,269	2,871,029	1,372,239
Georgia Railroad	June	329	632,966	111,773	778,409	53,853	84,334	21,405	251,499	428,534	55.1	349,875	324,796	305,514	95,589
	6 mos.	329	3,344,593	457,318	3,997,295	311,308	450,728	127,370	1,363,364	2,352,322	58.8	16,449,973	1,516,920	1,462,189	547,998
Georgia & Florida	June	408	127,831	1,725	133,397	30,636	18,224	10,048	47,880	113,453	85.0	19,944	10,935	4,889	1,890
	6 mos.	408	811,603	19,893	859,883	205,234	117,562	60,028	290,776	712,294	82.8	147,589	93,593	44,176	—774
Grand Trunk Western	June	1026	2,258,000	150,000	2,567,000	355,664	441,313	38,231	889,382	1,810,213	70.5	756,787	602,621	548,022	695,976
	6 mos.	1,026	12,298,000	722,000	13,948,000	1,905,099	2,711,045	230,981	5,664,502	10,986,158	78.8	2,961,842	2,085,924	1,648,057	3,496,395
Canadian National Lines in New England	June	172	125,100	5,000	140,100	54,016	27,110	2,570	79,535	174,247	124.4	—34,147	—52,667	—94,738	—62,747
	6 mos.	172	1,134,100	22,100	1,253,700	296,148	174,673	15,346	589,121	1,149,542	91.7	104,158	—6,962	—382,613	—252,534
Great Northern	June	8,077	12,052,416	823,602	14,105,890	1,905,098	2,125,070	240,888	3,332,057	7,953,049	56.4	6,152,841	3,659,538	3,589,789	3,287,974
	6 mos.	8,077	58,061,910	3,170,939	66,352,338	8,792,312	12,704,951	1,253,539	18,960,713	43,570,844	65.7	22,781,494	12,902,709	12,221,212	9,952,992
Green Bay & Western	June	234	180,467	408	188,336	36,479	23,729	9,793	57,570	131,790	69.9	56,546	34,451	26,629	14,507
	6 mos.	234	1,067,143	2,019	1,102,929	198,079	132,486	55,593	332,518	750,651	68.0	352,278	231,503	178,310	154,483
Gulf & Ship Island	June	259	179,684	17,238	215,871	33,928	23,329	3,075	76,542	144,164	66.8	71,707	52,324	36,470	—24,991
	6 mos.	259	848,790	115,256	1,050,223	160,461	141,142	18,752	406,329	766,819	73.0	283,404	177,684	95,612	26,975

Table of Revenues and Expenses continued on next left-hand page

Insures GREATER ECONOMIES

APPLICATION of HUNT-SPILLER *Air Furnace* GUN IRON Liners, Pistons and Packing Rings in the cylinders of your Diesel Power will assure greater earnings.

Their resistance to high cylinder temperatures and frictional wear will prevent waste of fuel and save many maintenance dollars.

H S G I Wear Resisting Parts insure longer service between renewals, lower fuel consumption and maximum efficiency. The total results mean greater economy from Diesel operation.

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Reg. U.S. Trade Mark
Cylinder Bushings
Cylinder Packing Rings
Pistons or Piston Bull Rings
Valve Bushings
Valve Packing Rings
Valve Bull Rings
Crosshead Shoes
Hub Liners
Shoes and Wedges
Floating Rod Bushings
Finished Parts
Dunbar Sectional Type Packing
Duplex Sectional Type Packing
for Cylinders and Valves
(Duplex Springs for Above
Sectional Packing)
Cylinder Snap Rings
Valve Rings All Shapes
Light Weight Valves
Cylinder Liners and Pistons
for Diesel Service

HUNT-SPILLER MFG. CORPORATION
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HUNT-SPILLER *Air Furnace* GUN IRON

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1942	1941
Gulf, Mobile & Ohio	June	1,969	$2,540,097	$93,249	$2,717,836	$316,108	$396,078	$86,685	$718,295	$1,616,315	59.5	$1,101,521	$687,021	$484,763	$334,245
	6 mos.	1,969	13,499,047	466,511	14,480,979	1,939,923	2,259,873	526,155	4,053,433	9,372,253	64.7	5,108,726	3,139,226	2,217,877	1,735,526
Illinois Central	June	4,950	12,124,874	1,491,555	14,290,062	1,768,660	2,860,176	213,529	4,128,505	9,430,602	66.0	4,859,460	2,132,328	1,689,922	1,684,478
	6 mos.	4,950	68,030,426	8,162,502	81,009,873	8,163,728	16,674,315	1,340,078	25,208,428	54,058,741	66.7	26,951,132	13,394,684	11,585,352	11,618,885
Yazoo & Mississippi Valley	June	1,550	2,651,768	172,956	2,922,076	206,741	367,269	34,933	749,977	1,434,723	49.1	1,487,353	1,321,651	1,191,311	403,336
	6 mos.	1,550	13,250,671	838,338	14,666,055	949,692	1,908,885	218,377	4,345,496	7,817,144	53.3	6,848,911	5,870,147	5,252,335	1,452,923
Illinois Central System	June	6,500	14,776,642	1,664,511	17,212,138	1,975,401	3,227,445	248,462	4,878,482	10,865,325	63.1	6,346,813	3,447,425	2,887,145	2,095,727
	6 mos.	6,500	81,281,097	9,000,840	95,675,928	9,113,420	18,583,200	1,558,455	29,553,924	61,875,885	64.7	33,800,043	19,231,506	16,870,164	13,123,285
Illinois Terminal	June	476	552,448	107,816	730,313	65,697	76,647	18,842	219,883	404,756	55.42	325,557	220,571	195,474	142,635
	6 mos.	476	3,069,949	585,417	4,027,395	350,739	500,951	112,267	1,260,385	2,402,065	59.64	1,625,330	1,092,058	964,669	701,906
Kansas City Southern	June	880	2,696,165	165,083	3,019,371	370,206	335,290	56,554	698,066	1,543,766	51.1	1,475,605	855,605	605,714	287,491
	6 mos.	880	12,694,945	873,007	14,513,279	1,691,069	1,966,507	340,056	3,651,745	8,115,351	55.9	6,397,928	4,425,928	3,417,002	2,023,075
Kansas, Oklahoma & Gulf	June	328	261,546	796	264,942	28,624	12,979	9,504	59,054	120,232	45.4	144,710	72,818	48,767	72,025
	6 mos.	328	1,330,176	3,487	1,349,381	130,359	78,196	58,080	337,869	673,254	49.9	676,127	423,061	300,090	432,115
Lake Superior & Ishpeming	June	156	349,622	79	450,126	38,631	37,218	732	69,503	151,278	33.6	298,848	129,506	138,104	190,705
	6 mos.	156	1,263,303	382	1,602,109	178,663	236,216	3,746	306,821	770,359	48.1	831,750	311,654	351,515	599,697
Lehigh & Hudson River	June	96	296,362	1,793	300,127	40,923	31,360	4,184	78,675	162,257	54.1	137,870	71,264	28,985	45,302
	6 mos.	96	1,726,203	12,480	1,746,527	157,207	179,991	26,807	483,348	890,535	51.0	855,992	438,826	243,183	182,529
Lehigh & New England	June	190	564,919	.....	568,396	50,779	109,795	7,268	147,438	332,327	58.5	236,069	132,055	143,699	190,879
	6 mos.	190	2,835,785	.....	2,853,460	250,863	594,378	44,859	843,143	1,840,623	64.5	1,012,837	552,922	622,235	690,181
Lehigh Valley	June	1,263	6,034,446	297,931	6,701,916	610,129	1,044,006	106,300	2,258,312	4,145,568	61.9	2,556,348	1,399,800	1,046,988	1,162,260
	6 mos.	1,263	30,795,944	1,465,752	34,214,835	3,247,894	5,635,016	641,274	13,165,627	23,615,676	69.0	10,599,159	6,631,231	4,626,638	5,414,552
Louisiana & Arkansas	June	877	1,208,382	86,050	1,341,685	233,388	158,223	30,586	285,383	757,661	56.5	584,024	315,541	244,328	167,507
	6 mos.	877	5,897,797	394,890	6,555,472	981,410	849,107	189,796	1,615,847	3,903,960	59.6	2,651,512	1,636,730	1,277,606	1,064,973
Louisville & Nashville	June	4,798	12,049,878	1,826,803	14,533,316	1,190,794	2,356,673	196,514	4,080,612	8,237,601	56.7	6,295,715	1,517,301	1,662,324	2,444,359
	6 mos.	4,798	63,434,740	8,418,765	75,729,999	7,024,410	13,496,342	1,178,319	23,104,123	47,017,579	62.1	28,712,420	9,107,675	10,025,684	11,491,037
Maine Central	June	991	1,069,704	246,316	1,425,916	234,493	263,133	10,296	472,694	1,023,401	71.8	402,515	237,897	217,385	244,682
	6 mos.	991	7,180,485	887,449	8,653,516	1,172,411	1,593,266	73,882	2,593,130	6,045,285	69.9	2,608,231	1,572,122	1,340,545	1,476,507
Midland Valley	June	351	108,469	10	110,760	27,235	9,038	2,409	33,891	78,906	71.2	31,854	9,269	1,537	14,507
	6 mos.	351	693,015	43	706,680	100,779	56,141	15,415	218,137	430,405	60.9	276,275	194,108	133,383	138,419
Minneapolis & St. Louis	June	1,409	937,962	26,346	1,001,391	210,682	161,745	56,765	338,353	811,769	81.1	189,622	130,500	78,745	96,705
	6 mos.	1,409	5,865,116	127,066	6,218,333	938,795	933,531	338,536	2,040,752	4,518,321	72.7	1,700,012	1,357,017	1,145,723	466,475
Minneapolis, St. Paul & Sault Ste. Marie	June	4,277	3,111,906	148,936	3,497,537	617,880	529,261	78,313	1,230,635	2,569,484	73.5	928,053	635,191	571,599	666,963
	6 mos.	4,277	17,083,526	557,930	18,828,162	2,661,341	3,351,161	415,146	7,271,173	14,330,639	76.1	4,497,523	2,887,592	2,469,516	1,653,817
Duluth, South Shore & Atlantic	June	550	323,468	12,817	364,948	72,080	60,578	8,048	114,265	261,611	71.7	103,337	84,111	81,018	66,183
	6 mos.	550	1,699,043	73,062	1,892,322	300,672	321,797	49,428	682,582	1,394,474	73.7	497,848	390,712	356,471	203,982
Spokane International	June	152	118,546	3,006	129,609	21,533	7,013	2,680	29,623	65,733	50.7	63,876	52,736	47,033	31,517
	6 mos.	152	526,919	8,668	581,013	93,884	47,435	15,484	168,171	352,554	60.7	228,459	179,359	152,323	67,295
Mississippi Central	June	158	114,002	1,077	117,605	23,197	14,259	8,298	27,826	78,521	66.8	39,084	32,162	25,366	16,238
	6 mos.	158	652,748	21,786	682,808	139,349	81,096	48,858	165,534	462,131	67.7	220,677	181,452	143,990	93,027
Missouri & Arkansas	June	365	115,679	1,851	124,318	25,519	14,366	7,807	41,016	93,548	75.2	30,770	20,558	11,187	5,321
	6 mos.	365	691,239	10,747	750,731	139,867	83,867	46,097	282,136	583,421	77.7	167,310	132,018	62,990	51,517
Missouri-Illinois	June	172	293,986	276	295,510	33,750	23,226	3,082	61,298	127,296	43.1	168,214	87,750	75,367	32,206
	6 mos.	172	1,478,786	1,396	1,487,570	173,603	171,575	20,426	360,407	753,943	50.7	733,627	409,082	333,046	295,615
Missouri-Kansas-Texas Lines	June	3,293	3,574,765	549,871	4,445,477	866,762	746,086	119,129	1,353,191	3,252,089	73.2	1,193,388	921,241	625,210	331,415
	6 mos.	3,293	18,607,404	2,973,464	23,383,702	3,365,066	3,786,128	724,648	7,741,685	16,600,599	71.0	6,783,103	5,332,445	3,568,628	1,389,381
Missouri Pacific	June	7,128	12,279,741	1,606,411	14,766,764	1,513,951	1,914,684	273,035	4,032,353	8,111,515	54.9	6,655,249	5,834,847	5,044,479	1,825,102
	6 mos.	7,134	61,072,278	7,031,990	73,353,338	7,864,843	10,979,503	1,632,059	22,873,448	45,496,406	62.0	27,856,932	23,850,432	20,121,816	9,185,475
Gulf Coast Lines	June	1,771	2,024,151	174,840	2,294,350	305,115	259,120	48,724	619,464	1,304,546	56.9	989,804	899,688	698,293	126,971
	6 mos.	1,771	13,461,110	699,437	14,710,592	1,698,085	1,484,060	289,841	3,913,291	7,781,010	52.9	6,929,582	6,373,653	4,976,716	1,837,877
International Great Northern	June	1,155	1,383,136	221,655	1,754,163	243,359	243,829	30,850	557,499	1,147,952	65.4	606,211	529,182	439,002	165,242
	6 mos.	1,155	7,303,561	942,882	9,072,679	1,284,177	1,478,610	189,414	3,323,654	6,675,924	73.6	2,396,755	1,959,229	1,416,525	485,059
Monongahela	June	172	584,844	746	587,779	66,627	42,126	552	128,103	240,570	40.9	347,209	221,850	130,697	202,449
	6 mos.	172	3,508,169	3,831	3,524,638	365,419	262,959	3,292	789,349	1,440,278	40.9	2,084,360	1,334,888	762,648	751,734

Table of Revenues and Expenses continued on third right-hand page

PURCHASING AGENTS OF AMERICAN RAILROADS

More than ever before . . .

We Must "Keep 'Em Rolling"

— *with* —

The Right Part . . .
At the Right Place . . .
At the Right Time . . . Properly Applied
At a Fair Price

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GENERAL MOTORS LOCOMOTIVES

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION LA GRANGE, ILLINOIS, U. S. A.

GM SERVICE

Keep

ELECTRO-MOT

GENERAL MOTORS CORPORATION

"WARDENS"

GM Diesels Rolling

TRANSPORTATION is the most far reaching of all the indispensable war activities. To meet the present emergency, all available locomotives have been pressed into service and are being used to the limit of their capabilities . . . General Motor Diesel Road Locomotives are playing a vital part in the nation's transportation network and everything possible is being done to keep these super-performers rolling with the highest degree of availability.

GM Service "Wardens" and eight stragetically located parts depots STAND GUARD day and night to protect this equipment. Every order for parts must leave the closest depot within the working day and normally no replacement part is more than 24 hours away from any piece of GM equipment in service. This long established service policy insures your receiving the right part—at the right place—at the right time—properly applied and at a fair price. GM Diesel Freight Locomotives are making possible:—reduction in train miles as much as 50 per cent—faster schedules—increased tonnage hauling capacity—and for each Diesel operated release as many as five heavy steam locomotives for other important services.

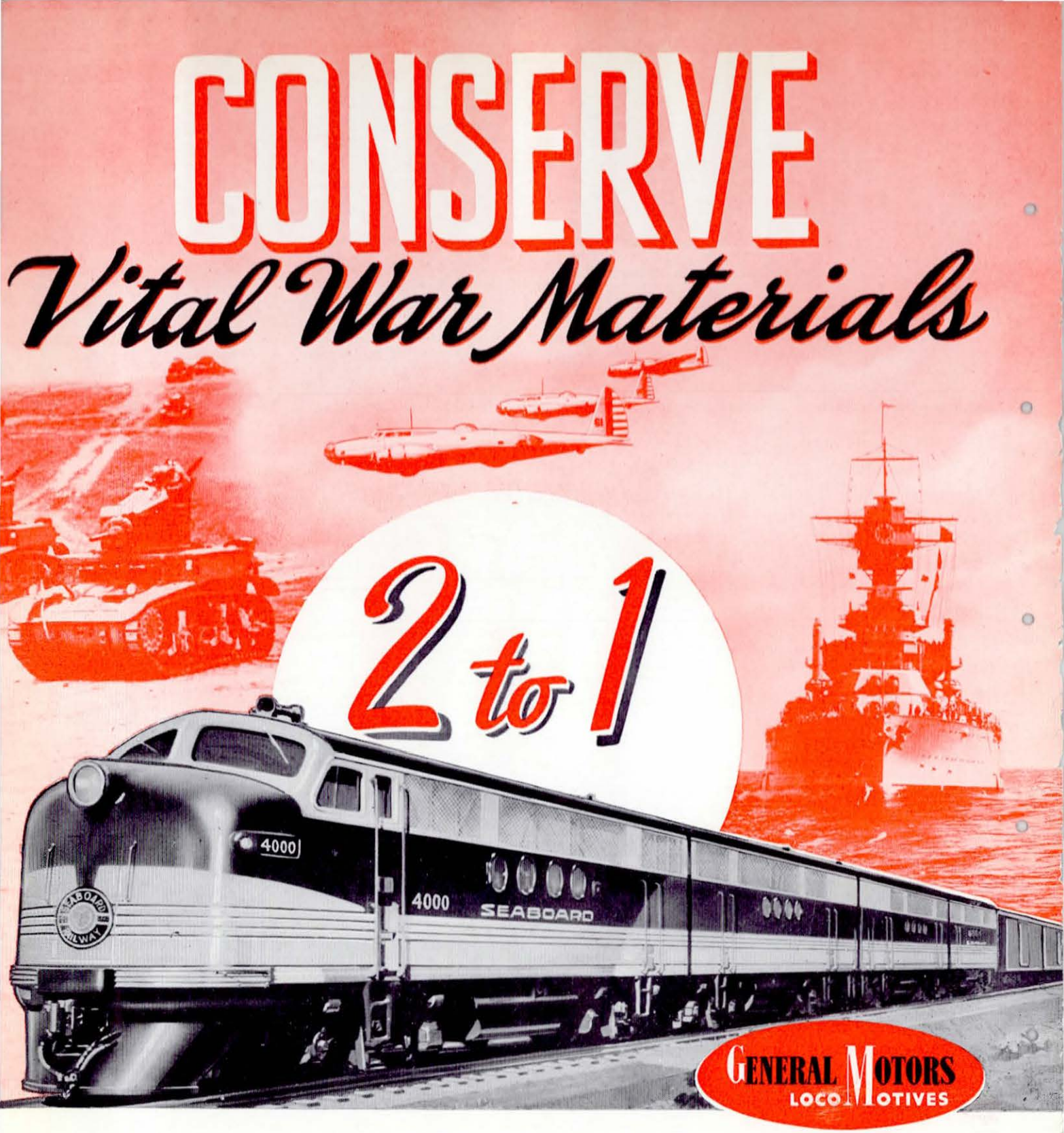
TRANSPORTATION IS VITAL TO VICTORY

GENERAL MOTORS
LOCOMOTIVES

IVE DIVISION

LA GRANGE, ILLINOIS, U. S. A.

CONSERVE
Vital War Materials



THE tremendous task now facing industry — and this includes the railroads — is how to build more and more and how to deliver war materials to required points — and this demands the utmost in productive capacity and economy.

Ordinary production is not sufficient.

Economy in the use of the nation's resources — making every pound of essential materials go as far as possible — is most vital to America's VICTORY program. Railroads operating General Motors Diesel Road Locomotives are increasing the carrying capacity of existing track facilities without expensive replacements with heavier rail or rebuilding of bridge structures.

And in the construction of GM Diesels, one ton of materials does the work of more than two tons of materials in a steam locomotive.

WHO SERVES THE RAILROADS—SERVES AMERICA

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION — LA GRANGE, ILLINOIS, U.S.A.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1942	1941
Montour	June	51	250,496	.....	252,168	23,202	53,248	858	57,500	143,302	56.8	108,866	41,488	80,865	102,386
	6 mos.	51	1,262,872	.....	1,272,133	86,509	311,443	4,959	335,687	783,103	61.6	489,030	161,723	382,387	361,334
Nashville, Chattanooga & St. Louis	June	1,111	2,019,982	334,676	2,527,621	246,590	423,140	74,110	791,537	1,618,558	64.0	909,063	538,200	492,698	282,099
	6 mos.	1,111	9,888,764	1,435,420	12,329,090	1,373,064	2,298,794	442,490	4,440,949	8,985,543	72.9	3,343,547	1,966,284	1,860,383	1,561,591
Nevada Northern	June	165	55,194	786	59,008	12,298	4,043	1,128	8,470	31,622	53.6	27,386	10,925	13,556	12,832
	6 mos.	165	333,632	4,158	355,798	60,915	20,729	7,188	58,003	183,331	51.5	172,467	66,489	77,586	95,078
New York Central	June	10,915	36,192,510	9,874,976	50,441,622	5,400,193	9,006,000	581,971	15,826,892	32,511,182	64.5	17,930,440	9,546,537	7,801,905	5,364,622
	6 mos.	10,916	197,247,536	45,890,230	266,978,513	27,654,532	53,576,087	3,521,799	95,171,215	189,822,196	71.1	77,156,317	41,137,712	32,394,311	27,905,928
Pittsburgh & Lake Erie	June	233	2,915,852	70,411	3,078,246	254,155	875,512	38,324	807,240	2,071,337	67.3	1,006,909	8,706	499,214	777,609
	6 mos.	232	15,453,800	381,268	16,269,084	1,388,212	4,704,538	239,512	4,715,690	11,629,192	71.5	4,639,892	351,058	2,979,886	3,509,401
New York, Chicago & St. Louis	June	1,688	7,055,150	144,541	7,319,097	626,792	876,121	131,012	2,075,474	3,859,143	52.7	3,459,954	1,595,553	1,062,431	1,303,231
	6 mos.	1,688	38,318,656	957,773	39,989,136	3,213,531	4,938,020	786,706	12,267,983	22,070,348	55.2	17,918,788	9,346,535	6,305,363	6,926,241
New York, New Haven & Hartford	June	1,844	7,655,444	4,533,332	13,186,859	1,321,778	1,738,126	125,629	3,875,612	7,611,267	57.7	5,575,592	3,715,592	2,820,529	1,688,192
	6 mos.	1,841	42,639,853	21,896,556	69,881,988	6,911,094	9,811,028	749,619	22,836,234	43,452,903	62.2	26,429,085	18,183,085	12,773,026	7,609,354
New York Connecting	June	21	175,555	.....	193,203	71,663	10,910	.....	39,519	123,626	64.0	69,577	25,077	92,842	300,241
	6 mos.	21	1,416,356	.....	1,500,038	302,437	56,830	.....	241,532	610,280	40.7	889,758	618,978	938,340	1,598,211
New York, Ontario & Western	June	547	575,839	38,181	663,474	93,922	125,236	21,524	317,849	581,962	87.7	81,512	48,443	—20,779	29,266
	6 mos.	547	3,185,680	92,735	3,539,133	398,413	678,585	119,909	1,755,396	3,081,435	87.1	457,698	272,620	—5,841	—237,605
New York, Susquehanna & Western	June	262	287,112	36,704	341,393	29,775	29,408	3,036	116,687	190,028	55.7	151,365	120,906	81,934	88,811
	6 mos.	262	1,648,679	200,599	1,946,199	159,529	194,208	15,014	753,180	1,187,185	61.0	759,014	576,445	373,864	379,317
Norfolk & Western	June	2,164	10,343,454	736,005	11,419,374	1,205,149	2,550,845	166,630	2,348,179	6,535,982	57.2	4,883,392	1,121,270	1,691,252	3,255,566
	6 mos.	2,174	60,932,101	2,859,153	65,575,055	6,629,060	13,777,109	948,613	14,085,178	37,012,703	56.4	28,562,352	7,432,970	10,295,330	14,938,957
Norfolk Southern	June	733	833,845	21,062	881,379	114,388	76,437	29,212	230,919	477,049	54.1	404,330	232,525	191,003	98,350
	6 mos.	733	3,438,022	75,821	3,628,247	599,721	408,679	168,162	1,128,064	2,457,021	67.7	1,171,226	783,299	620,747	277,982
Northern Pacific	June	6,889	7,975,082	745,567	9,448,389	1,463,822	1,767,958	176,826	2,693,848	6,464,681	68.4	2,983,708	1,713,180	1,998,255	1,701,595
	6 mos.	6,889	42,604,795	3,118,579	49,489,460	6,832,793	10,436,626	1,018,452	15,750,598	36,143,906	73	13,345,554	7,321,805	9,621,169	7,127,025
Northwestern Pacific	June	342	397,074	10,326	429,954	114,793	50,100	2,229	137,954	311,861	72.5	118,093	94,439	76,800	—3,900
	6 mos.	344	1,922,045	54,966	2,084,691	582,909	307,766	14,513	818,118	1,766,997	84.8	317,694	185,685	88,572	—204,860
Oklahoma City-Ada-Atoka	June	132	122,072	.....	122,864	13,415	4,960	1,074	29,179	52,366	42.6	70,498	35,778	25,024	5,387
	6 mos.	132	545,886	1	554,729	72,943	22,797	6,117	135,791	254,609	45.9	300,120	198,910	133,070	7,190
Pennsylvania	June	10,215	53,042,569	13,558,154	71,413,011	7,693,282	12,394,064	875,437	22,614,754	45,445,398	63.5	25,967,613	15,201,480	13,694,527	10,089,616
	6 mos.	10,215	284,834,767	68,506,066	379,621,861	40,213,382	75,081,840	4,900,411	134,818,199	265,782,249	70.0	113,839,612	55,332,312	47,972,015	42,679,310
Long Island	June	378	947,034	1,945,115	3,027,442	391,864	577,106	10,827	1,139,846	2,164,223	71.5	863,219	406,838	222,754	208,635
	6 mos.	378	5,298,267	9,458,848	15,522,957	2,059,506	2,721,882	60,216	6,806,599	11,962,331	77.1	3,560,626	1,682,952	564,338	453,157
Pennsylvania-Reading Seashore Lines	June	406	454,088	324,736	807,710	104,219	76,158	9,543	377,497	584,702	72.4	223,008	118,207	—976	—1,035
	6 mos.	406	2,545,328	1,058,731	3,762,538	586,977	608,565	48,996	2,124,042	3,476,214	92.4	286,324	—277,053	—835,117	—932,493
Pere Marquette	June	2,055	3,257,993	177,872	3,618,503	469,704	739,793	67,625	1,203,868	2,600,144	71.9	1,018,359	629,702	537,021	589,582
	6 mos.	2,055	18,379,804	764,603	20,022,583	2,561,051	4,281,039	417,719	7,426,051	15,372,107	76.8	4,650,476	2,768,524	2,506,364	3,242,012
Pittsburg & Shawmut	June	97	111,480	.....	112,472	14,689	18,607	1,961	27,518	67,712	60.2	44,760	41,570	35,793	32,139
	6 mos.	97	588,420	.....	592,280	64,270	113,762	12,000	151,074	368,537	62.2	223,743	205,010	185,331	81,972
Pittsburgh & West Virginia	June	136	581,736	.....	599,046	117,335	108,359	20,037	125,300	393,415	65.7	205,631	157,697	156,785	142,244
	6 mos.	136	2,851,817	296	2,958,363	450,304	591,603	116,713	669,694	1,973,791	66.7	984,572	724,322	782,068	743,837
Pittsburgh, Shawmut & Northern	June	190	129,657	.....	130,633	20,954	31,203	1,205	40,471	99,634	76.3	30,999	24,316	18,250	33,157
	6 mos.	190	763,251	.....	772,414	116,949	177,149	7,289	267,352	602,565	78.0	169,849	128,944	81,046	152,368
Reading	June	1,425	7,676,452	588,776	8,619,661	836,890	1,622,837	79,020	2,733,971	5,444,317	63.5	3,175,544	1,772,823	1,642,272	1,460,071
	6 mos.	1,428	43,400,054	2,926,715	48,454,088	3,760,656	9,705,317	453,186	16,324,197	31,276,635	64.5	17,177,453	10,316,026	9,031,193	7,970,395
Richmond, Fredericksburg & Potomac	June	118	1,371,307	789,254	2,338,824	136,661	195,019	10,702	552,108	966,211	41.3	1,372,613	208,670	78,654	234,404
	6 mos.	118	6,903,537	4,295,951	12,241,717	707,142	1,154,179	64,067	3,236,826	5,612,199	45.8	6,629,518	2,459,187	1,681,821	1,351,313
Rutland	June	407	250,834	35,781	352,309	42,434	68,024	10,818	156,476	290,891	82.6	61,418	42,277	45,447	38,313
	6 mos.	407	1,463,282	210,823	2,035,149	219,984	390,157	63,630	948,842	1,692,978	83.2	342,171	222,818	240,999	58,693
St. Louis-San Francisco	June	4,765	5,544,699	963,157	6,989,254	686,185	1,196,130	140,399	2,210,679	4,491,164	64.3	2,498,090	2,109,867	2,044,149	1,119,804
	6 mos.	4,766	28,916,465	4,592,760	36,169,831	3,881,698	6,712,017	801,697	12,594,357	25,423,344	70.3	10,746,487	8,245,237	8,487,578	5,098,226
St. Louis, San Francisco & Texas	June	159	301,292	6,363	314,257	31,268	23,820	9,800	89,184	160,133	50.1	154,124	142,870	113,320	—8,713
	6 mos.	159	1,243,718	22,437	1,299,814	168,325	131,801	54,139	445,735	835,165	64.3	464,649	403,519	244,628	—17,659

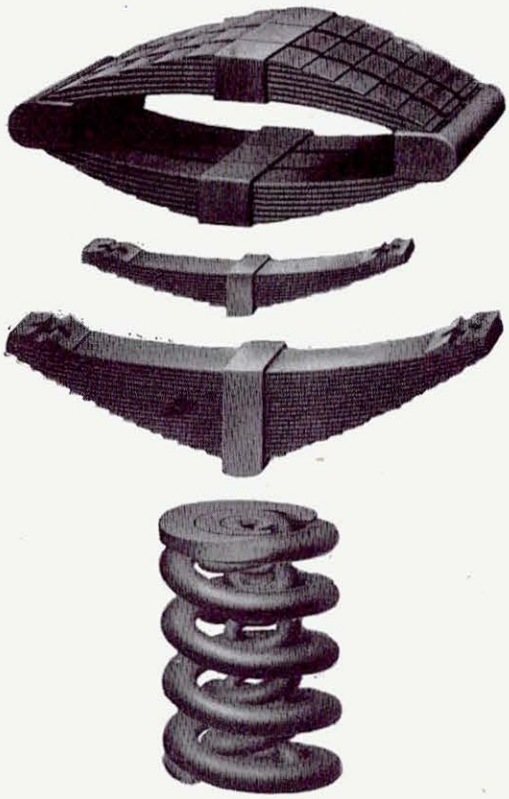
Table of Revenues and Expenses continued on next left-hand page

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues			Operating expenses					Operating ratio	Net from railway operation	Operating income	Net railway operating income	
			Freight	Passenger	Total (inc. misc.)	Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total				1942	1941
St. Louis Southwestern Lines	June	1,617	$3,888,168	$126,249	$4,112,736	$362,568	$431,814	$94,660	$1,026,719	$2,017,708	49.1	$2,095,028	$1,255,997	$902,096	$294,850
	6 mos.	1,617	19,231,956	857,467	20,647,043	2,081,510	2,233,582	573,443	5,559,227	11,029,309	53.4	9,617,734	5,879,062	4,379,490	3,032,282
Seaboard Air Line	June	4,244	6,740,734	2,008,910	9,215,312	859,627	1,289,566	199,707	2,588,680	5,261,868	57.1	3,953,444	3,528,444	3,238,595	856,006
	6 mos.	4,285	34,618,028	10,949,883	48,390,416	5,230,818	7,297,137	1,234,994	15,099,986	30,793,152	63.6	17,597,264	15,147,264	13,276,824	5,020,214
Southern Railway	June	6,519	13,373,670	3,143,655	17,437,472	1,651,469	2,623,609	181,704	4,444,667	9,418,954	54.0	8,018,518	4,006,539	3,723,275	2,632,156
	6 mos.	6,519	71,846,540	12,862,648	89,875,646	9,613,703	14,814,506	1,140,478	25,986,955	54,364,885	60.5	35,510,761	19,425,766	17,979,626	14,817,278
Alabama Great Southern	June	315	1,425,830	232,677	1,727,215	109,251	237,074	23,518	418,946	827,382	47.9	899,833	167,484	89,023	180,792
	6 mos.	315	7,016,872	1,124,629	8,557,743	656,120	1,277,648	124,016	2,268,110	4,550,517	53.2	4,007,226	1,285,571	994,086	1,000,102
Cincinnati, New Orleans & Texas Pacific	June	337	2,130,731	219,472	2,445,184	241,332	481,028	31,183	569,117	1,391,204	56.9	1,053,980	387,536	362,335	545,767
	6 mos.	337	11,655,942	1,453,504	13,715,307	1,406,673	2,761,644	188,928	3,304,263	8,074,513	58.9	5,640,794	2,391,869	2,351,978	3,028,250
Georgia Southern & Florida	June	398	271,755	86,138	381,853	58,484	43,277	2,688	110,610	226,332	59.3	155,521	67,602	51,431	34,145
	6 mos.	398	1,443,904	555,973	2,162,307	331,358	286,212	15,493	699,760	1,400,614	64.8	761,693	441,197	309,380	330,206
New Orleans & Northeastern	June	204	856,185	127,782	1,024,521	67,807	68,941	12,717	245,761	420,415	41.0	604,106	337,627	243,574	124,355
	6 mos.	204	4,101,345	704,655	5,029,121	381,754	374,370	64,451	1,242,946	2,206,665	43.9	2,822,456	1,400,762	964,018	605,191
Southern Pacific	June	8,564	24,006,691	4,319,146	30,583,070	2,397,118	4,788,240	406,735	8,812,177	17,808,247	58.2	12,774,823	6,827,904	5,702,881	4,734,316
	6 mos.	8,568	125,911,671	21,235,262	158,856,893	13,684,451	26,104,640	2,432,813	51,332,690	101,292,429	63.8	57,564,464	35,855,864	28,963,524	20,765,755
Southern Pacific Steamship Lines	June	.....	Dr. 8,398	76	Dr. 8,196	313	343	Cr. 5	458	2,382	% in excess	—10,578	—12,473	—12,473	114,928
	6 mos.	.....	Dr. 1,657	245	609	79,136	530	136	22,820	118,535	of .999	—117,926	—120,128	—120,128	511,081
Texas & New Orleans	June	4,402	6,612,411	1,065,521	8,137,639	859,483	924,032	135,330	1,952,391	4,145,034	50.9	3,992,605	1,918,141	1,539,794	1,162,092
	6 mos.	4,407	35,261,795	4,516,285	42,109,106	5,157,434	5,330,011	833,041	11,237,683	24,102,693	57.2	18,006,413	10,704,763	8,539,271	5,321,515
Spokane, Portland & Seattle	June	930	1,478,841	61,454	1,624,937	208,509	125,006	11,693	415,518	803,027	49.4	821,910	685,060	572,404	334,779
	6 mos.	936	7,770,974	272,654	8,473,983	1,037,545	718,606	69,408	2,542,729	4,604,142	54.3	3,869,841	3,200,357	2,512,685	1,078,693
Tennessee Central	June	286	334,093	11,101	363,002	76,883	56,079	6,818	109,703	262,652	72.4	100,350	69,896	51,592	48,347
	6 mos.	286	1,795,077	50,661	1,943,274	417,014	289,184	42,171	641,523	1,466,098	75.4	477,176	329,806	237,461	223,767
Texas & Pacific	June	1,889	3,007,829	779,065	4,113,465	353,446	663,843	86,402	1,060,371	2,331,931	56.7	1,781,534	1,137,144	1,041,889	547,804
	6 mos.	1,889	15,365,581	3,761,988	20,895,601	2,353,914	3,591,792	500,891	6,060,491	13,473,336	64.5	7,422,265	4,977,614	4,364,501	3,100,167
Texas Mexican	June	162	113,427	323	134,639	22,088	10,163	3,918	35,459	79,670	59.2	54,969	48,093	39,147	17,184
	6 mos.	162	759,854	2,096	879,567	124,945	78,759	23,069	236,462	510,952	58.1	368,615	325,526	281,249	137,006
Toledo, Peoria & Western	June	239	264,629	1	269,026	46,709	21,023	20,049	51,141	149,711	55.6	119,315	105,599	87,309	27,709
	6 mos.	239	1,130,677	14	1,150,156	158,730	107,731	109,114	359,710	818,606	71.2	331,550	250,858	168,820	200,845
Union Pacific System	June	9,852	21,969,100	3,678,979	27,693,355	4,367,810	4,674,114	438,778	6,905,623	17,556,530	63.4	10,136,825	4,514,568	3,777,807	1,480,809
	6 mos.	9,864	112,117,528	15,599,141	137,518,780	19,752,446	26,758,435	2,556,335	41,308,928	96,440,726	70.1	41,078,054	19,261,574	14,937,714	7,870,018
Utah	June	111	117,081	.....	117,181	18,028	28,672	419	27,948	79,486	67.8	37,695	29,265	27,519	—1,981
	6 mos.	111	624,575	.....	624,996	95,335	189,216	2,733	165,139	478,328	76.5	146,668	70,388	66,030	17,294
Virginian	June	660	2,146,121	7,637	2,231,179	191,587	475,410	25,854	370,862	1,111,854	49.8	1,119,325	519,325	615,102	830,829
	6 mos.	654	12,993,922	27,702	13,512,400	1,114,049	2,820,875	155,089	2,363,467	6,734,042	49.8	6,778,358	3,595,858	3,813,265	3,824,868
Wabash	June	2,394	5,707,892	475,852	6,493,777	779,330	827,160	158,562	2,060,105	4,045,649	62.3	2,448,128	1,276,196	735,028	832,355
	6 mos.	2,396	30,124,615	2,216,678	34,309,156	3,787,873	4,490,338	962,906	11,743,922	22,107,375	64.4	12,201,781	6,659,057	4,324,085	4,337,187
Ann Arbor	June	294	391,968	4,802	410,546	50,977	81,171	15,394	163,652	324,962	79.2	85,584	45,151	29,330	71,420
	6 mos.	294	2,444,577	17,038	2,516,325	244,145	487,694	90,800	1,052,217	1,951,562	77.6	564,763	302,200	211,439	299,920
Western Maryland	June	859	2,518,991	18,763	2,608,939	279,777	570,082	43,995	690,708	1,656,101	63.5	952,838	557,838	560,943	489,826
	6 mos.	859	13,612,019	73,209	14,054,667	1,414,735	3,103,332	273,668	3,775,656	8,973,082	63.8	5,081,585	3,011,585	3,120,219	2,839,482
Western Pacific	June	1,195	2,439,293	176,637	2,715,413	273,516	367,112	72,316	854,595	1,651,847	60.8	1,063,566	950,369	850,601	255,149
	6 mos.	1,195	14,288,948	780,642	15,467,827	1,654,158	2,151,903	452,195	5,372,548	10,083,732	65.2	5,384,095	4,655,918	3,869,535	1,118,226
Wheeling & Lake Erie	June	507	2,074,985	.....	2,181,235	301,245	321,833	39,850	573,405	1,273,037	58.4	908,198	158,702	264,926	351,798
	6 mos.	507	10,720,658	7	11,254,169	1,424,136	1,989,605	244,204	3,281,212	7,165,718	63.7	4,088,451	496,010	1,342,488	2,000,807

"Railway" Springs



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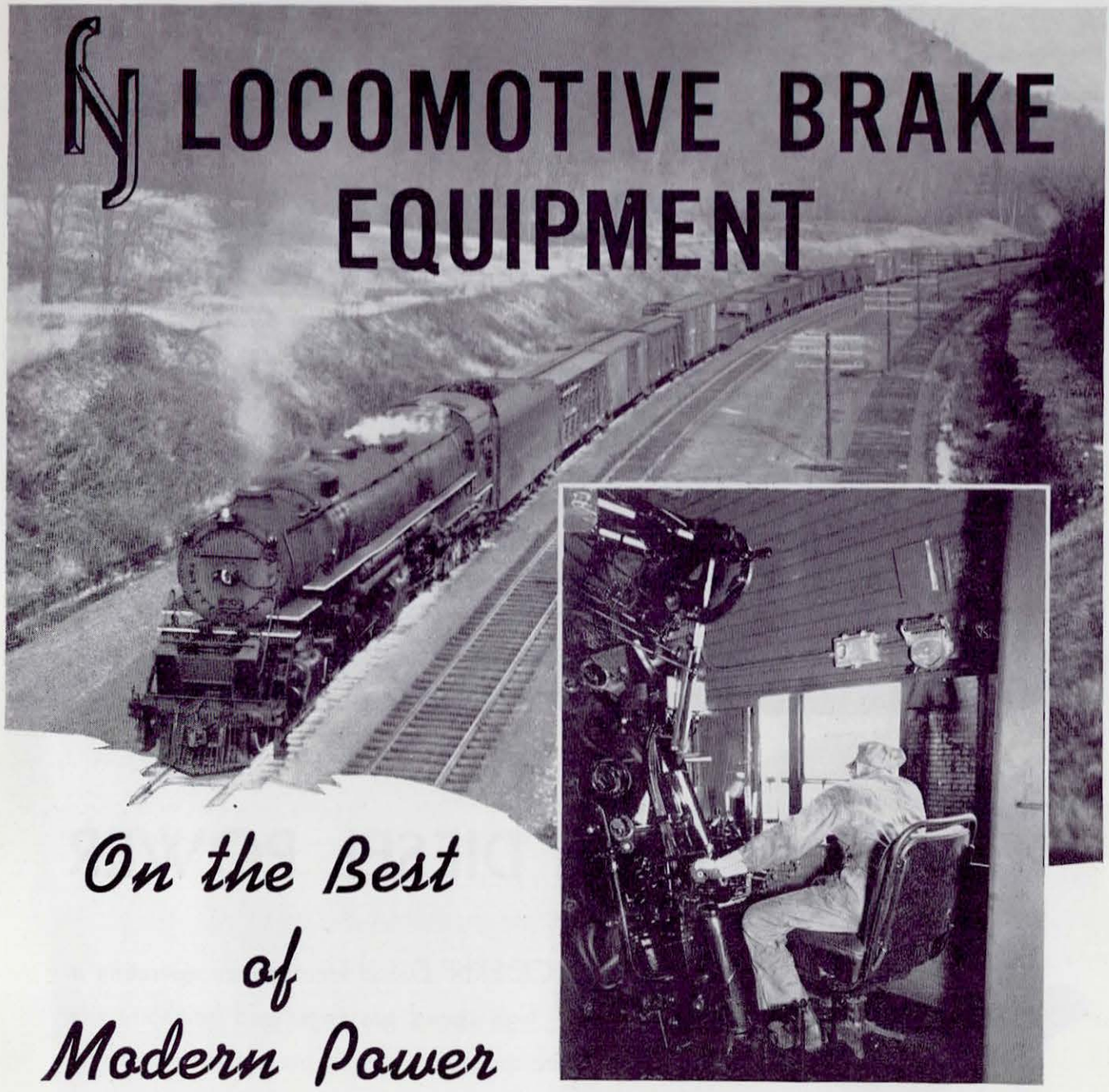

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Shall Men be Laid Off?
Shall Our Soldiers Die?

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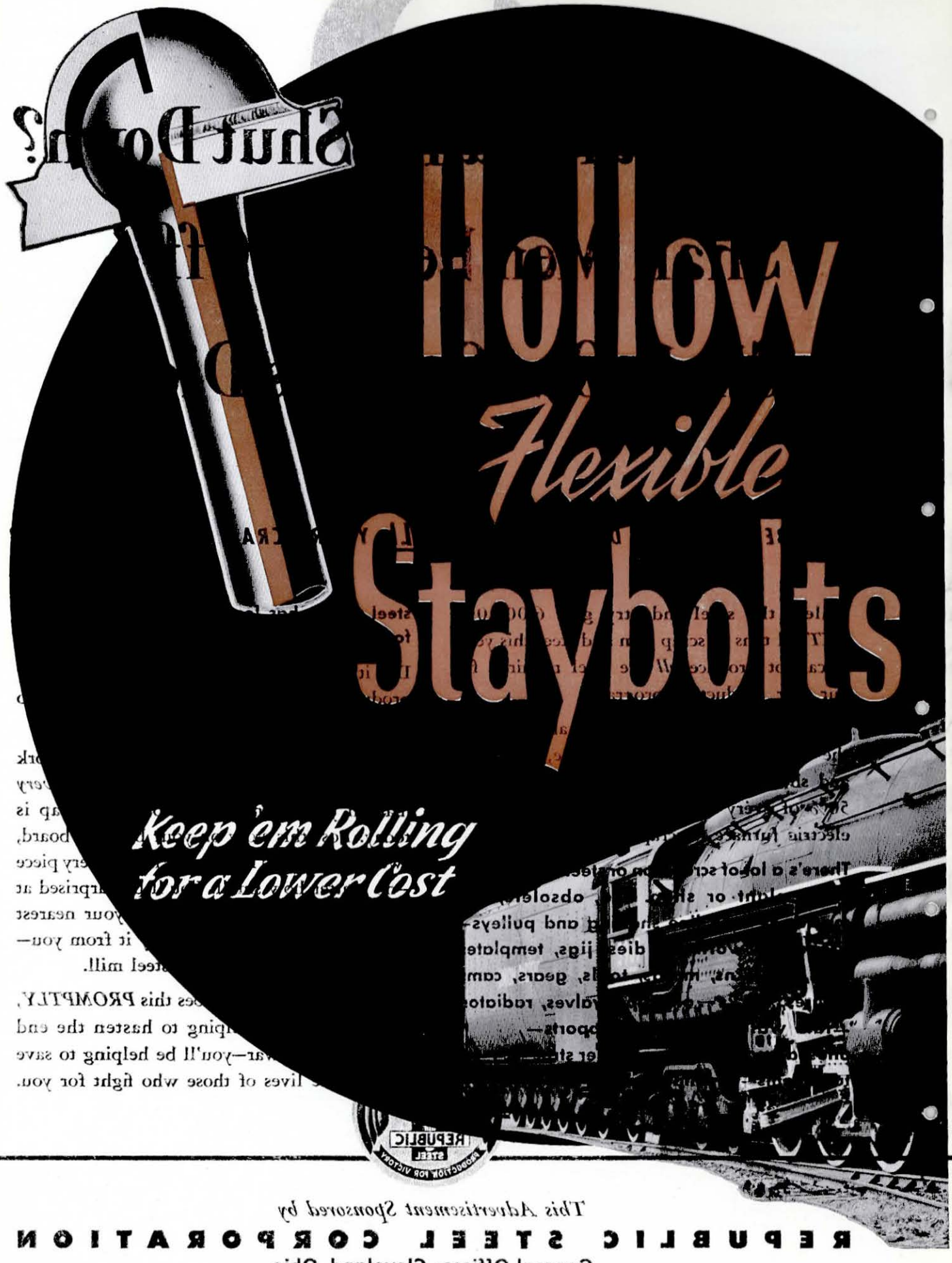

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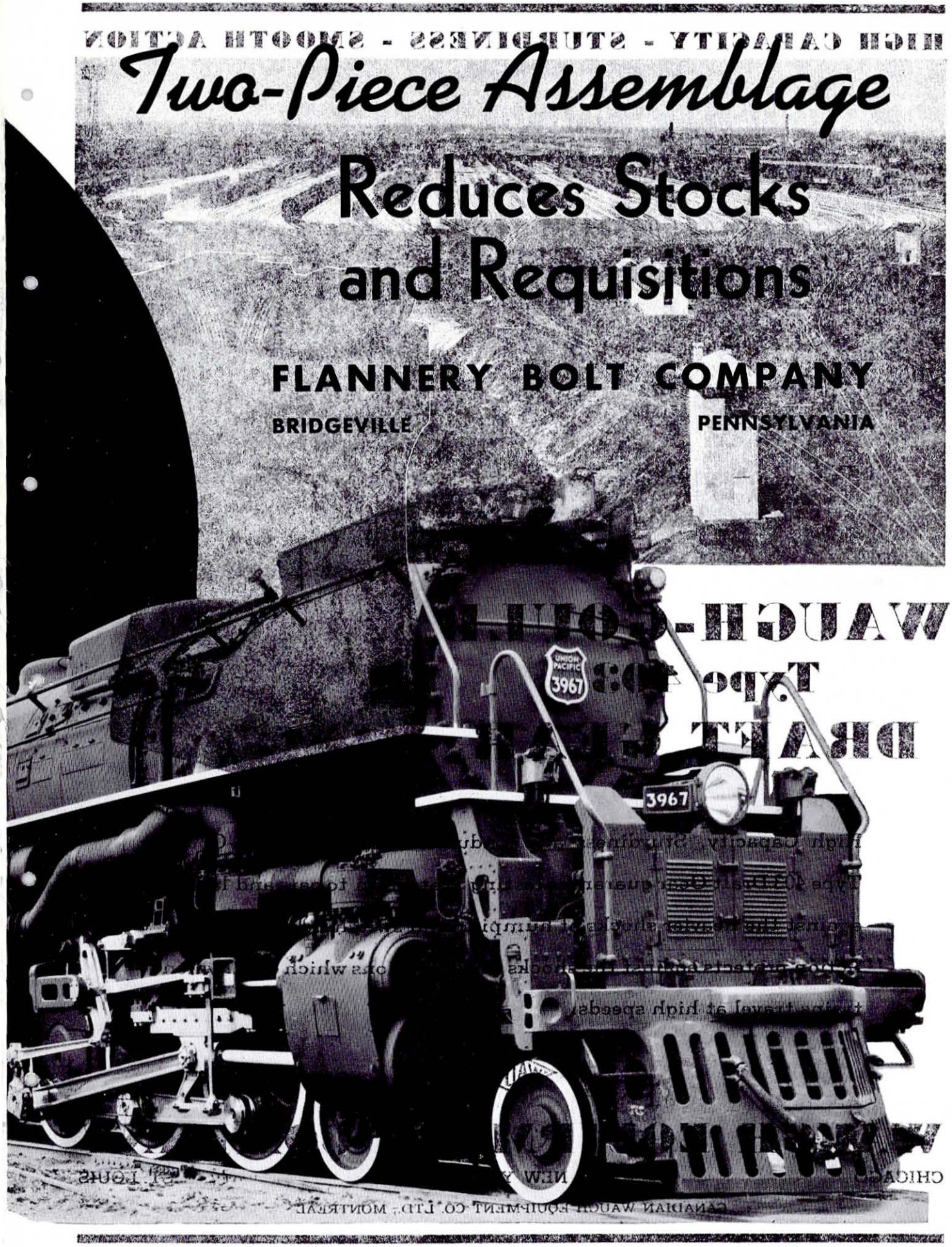
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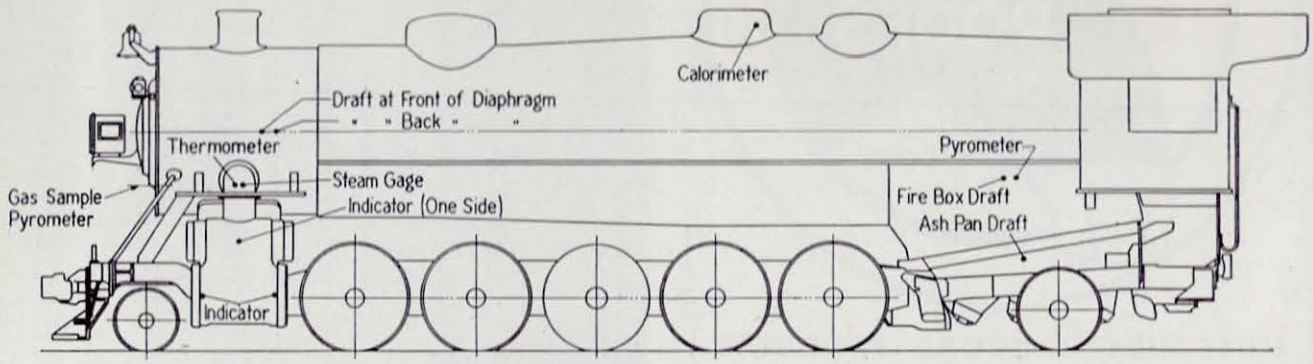

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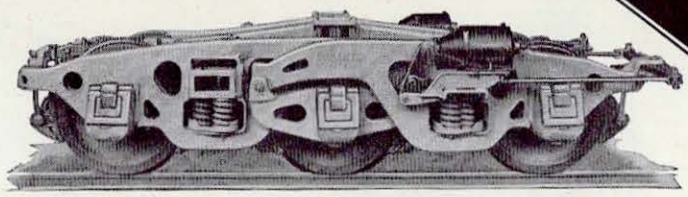

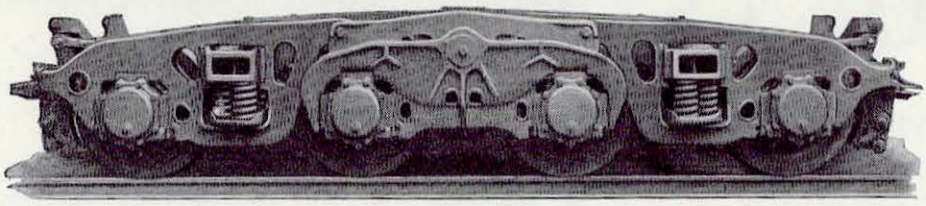

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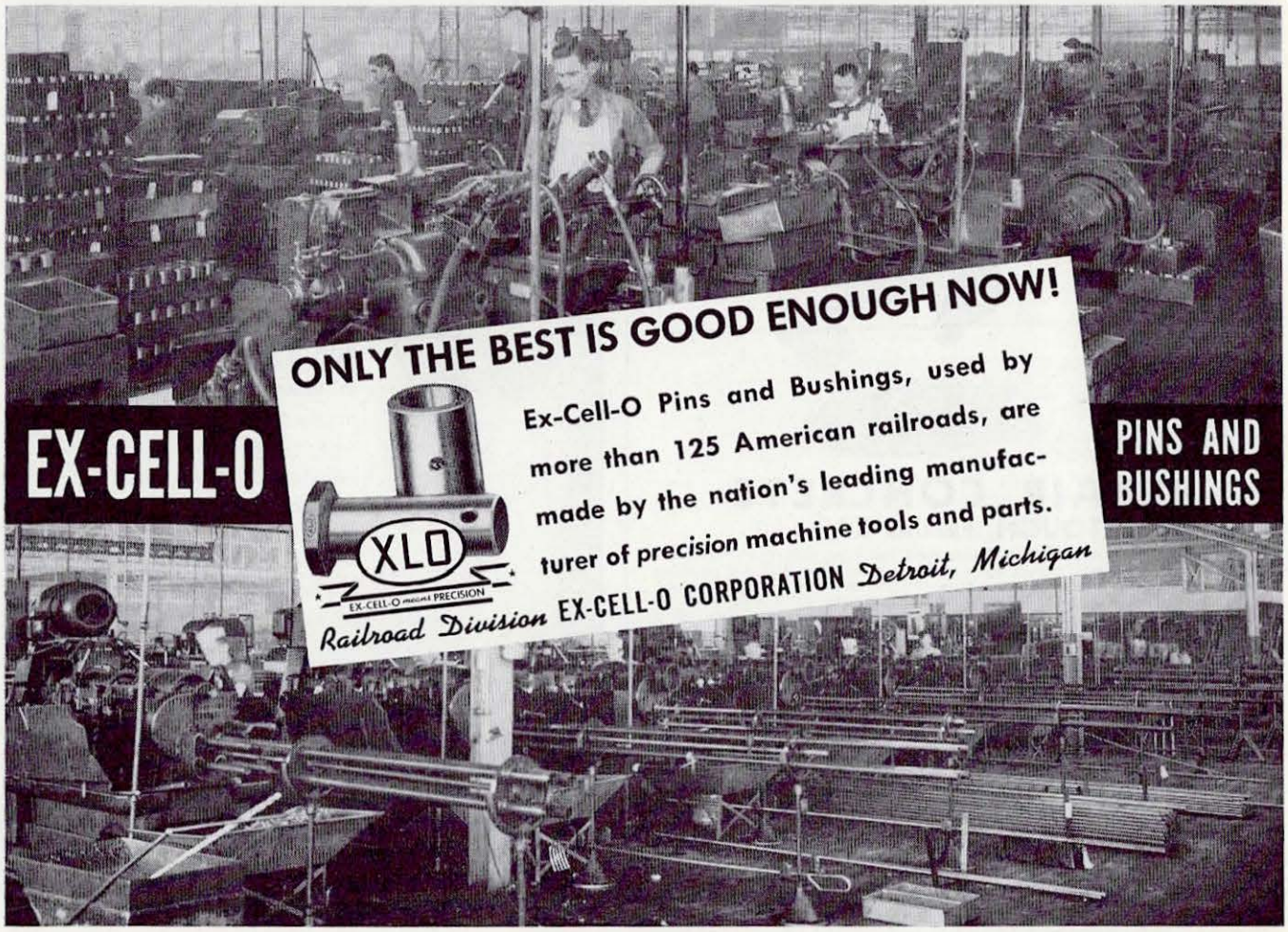
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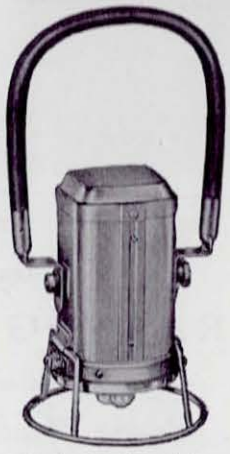

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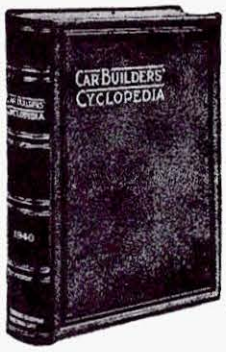

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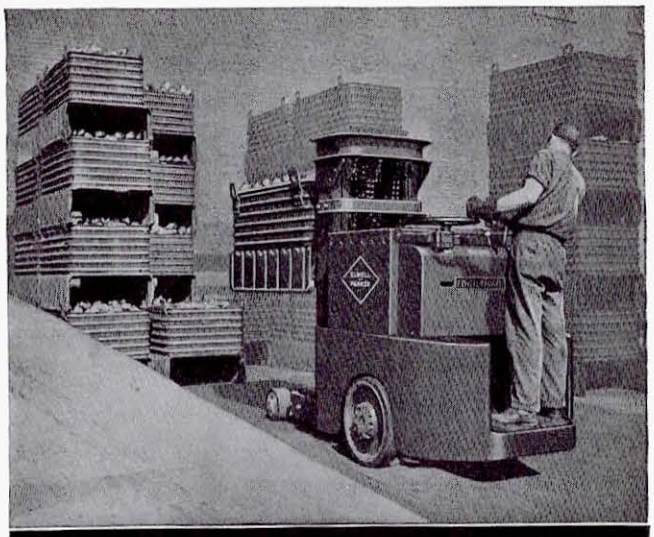

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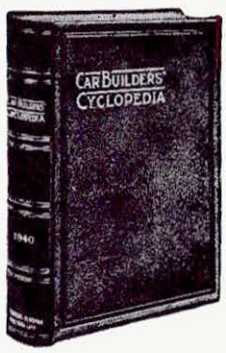

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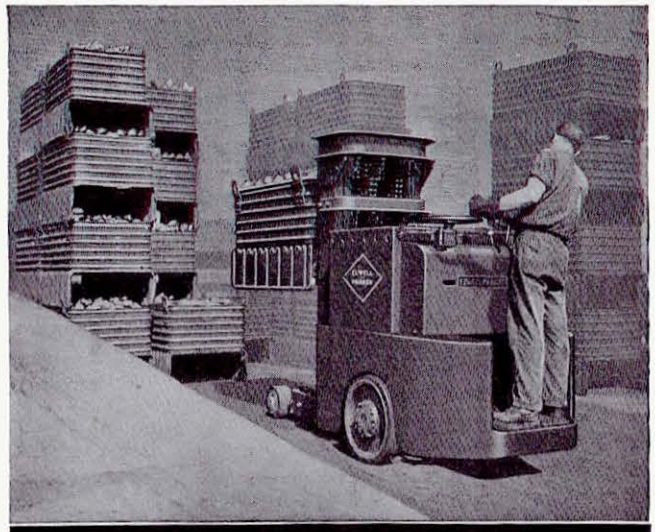

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